

**AMERICAN MATHEMATICAL SOCIETY
EXECUTIVE COMMITTEE AND BOARD OF TRUSTEES
NOVEMBER 21-22, 2003
PROVIDENCE, RHODE ISLAND**

MINUTES

A joint meeting of the Executive Committee of the Council (EC) and the Board of Trustees (BT) was held Friday and Saturday, November 21-22, 2003, at the AMS Headquarters in Providence, Rhode Island.

The following members of the EC were present: Hyman Bass, Robert L. Bryant, Walter Craig, Robert J. Daverman, David Eisenbud, David R. Morrison, and Hugo Rossi.

The following members of the BT were present: John B. Conway, David Eisenbud, John M. Franks, Eric M. Friedlander, Linda Keen, Donald E. McClure, Jean E. Taylor, and Carol S. Wood.

Also present were: Gary G. Brownell (Deputy Executive Director), John H. Ewing (Executive Director and Publisher), Ellen H. Heiser (Assistant to the Executive Director [and recording secretary]), Elizabeth A. Huber (Deputy Publisher), Jane E. Kister (Executive Editor, Mathematical Reviews), James W. Maxwell (Associate Executive Director, Meetings and Professional Services), Constance W. Pass (Chief Financial Officer), and Samuel M. Rankin (Associate Executive Director, Government Relations and Programs).

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

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

0	CALL TO ORDER AND ANNOUNCEMENTS
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0.1 **Opening of the Meeting and Introductions.**

President Eisenbud convened the meeting and everyone introduced themselves.

0.2 **2003 AMS Election Results.**

Secretary Daverman announced the following election results:

President Elect

James G. Arthur, University of Toronto.

Vice President

Vaughn F. R. Jones, University of California, Berkeley

Trustee

Linda Keen, Herbert H. Lehman College, City University of New York

Members at Large of the Council

James W. Cannon, Brigham Young University

Sylvain E. Cappell, Courant Institute of Mathematical Sciences, New York University

Beverly E. J. Diamond, College of Charleston

Mark Goresky, Institute for Advanced Study

Alejandro Uribe, University of Michigan, Ann Arbor

Nominating Committee

Annalisa Crannell, Franklin & Marshall College

Arthur M. Jaffe, Harvard University

Joel H. Spencer, Courant Institute of Mathematical Sciences, New York University

Editorial Boards Committee

Emma Previato, Boston University

Karl Rubin, Stanford University

Amendments to the Bylaws

The amendments to the Bylaws were approved.

See also item 2.9.

0.3 Housekeeping Matters.

Executive Director Ewing informed the ECBT about several housekeeping matters related to the present meeting.

1 EXECUTIVE COMMITTEE ACTION/DISCUSSION ITEMS
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1.1 Draft Agenda for the January 2004 Council Meeting.

The EC discussed and approved the draft Council agenda, with minor modifications.

1I EXECUTIVE COMMITTEE INFORMATION ITEMS

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

Minutes of Secretariat business by mail during the months May 2003 – October 2003 are attached (#3).

2 EXECUTIVE COMMITTEE AND BOARD OF TRUSTEES ACTION/DISCUSSION ITEMS
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2.1 Report on Committee on Meetings and Conferences (COMC).

The ECBT was informed that the most recent meeting of COMC was March 29, 2003. A report on that meeting was given at the May 2003 ECBT meeting. Since that report, planning has proceeded to hold another COMC-sponsored focus group at the Phoenix meeting. The moderator will be Paul Zorn, a member of COMC. Feedback from this focus group will be a source of information for the focused planning study on meetings and conferences that is scheduled to be conducted during 2004.

2.2 Report on Committee on Science Policy (CSP).

The ECBT received the following report:

The next CSP meeting will be April 1-3, 2004 in Washington, DC.

CSP will host a panel discussion at the Joint Mathematics Meetings in Phoenix entitled, “A Walk Through the Math Pipeline from End to End.” The panel will be moderated by Jane Hawkins of the University of North Carolina at Chapel Hill.

In addition, CSP has secured Michael Turner, the Assistant Director of the Directorate for Mathematical and Physical Sciences at the NSF to be the government speaker it hosts with the MAA Science Policy Committee at the Joint Meetings.

The annual Department Chairs Colloquium of the Board on Mathematical Sciences and their Applications (BMSA) has been discontinued. Staff feels that CSP can provide some of the information that chairs received at the BMSA meeting and so plan to begin the April 2004 CSP meeting on Thursday evening (April 1) with a reception, dinner, speaker, and a discussion.

For the past several years, CSP has invited department chairs to the meeting, with twelve to fifteen usually attending. Staff would like to increase the number of department chairs attending. The intent of the Thursday evening session is to give department chairs a chance to voice their concerns about, and discuss, various policy issues affecting mathematics. The Friday session, as is now the case, will have presentations from congressional staff, agency representatives, and other pertinent organizations.

This extension of CSP is part of a three-pronged effort to provide information and engage department chairs in discussions that can be useful to them and the mathematical community. The two other components of this effort are the Committee on Education (COE) meeting and the January AMS Department Chairs' Workshop. At this time, there are no plans to extend the number of days of either the COE meeting or the Department Chairs' Workshop.

The cost of extending the CSP meeting will be under \$8,000 with some of the cost to the AMS reduced by a registration fee charged to attending department chairs.

2.3 Report on Committee on the Profession (CoProf). Att. #4.

The ECBT received the attached report (#4) on the September 13, 2003 CoProf meeting.

2.4 Report on Committee on Education (COE). Att. #5.

The ECBT received the attached report (#5) on the October 24-25, 2003 COE meeting.

2.5 Report on Committee on Publications (CPub). Att. #6.

The ECBT received the attached report (#6) on the September 19-20, 2003 CPub meeting.

2.6 Report on Mathematical Reviews Editorial Committee (MREC). Att. #7.

The ECBT received the attached report (#7) on the September 29, 2003 MREC meeting.

2.7 Report on Long Range Planning Committee (LRPC).

The LRPC met on November 21, 2003. The Committee's main item of business was to consider an updated charge to the Committee on Science Policy that better conforms to present realities of the operations of CSP and the Washington Office of the AMS.

The EC approved the LRPC's recommendation to recommend the following revised "Principal Activities" section of the Committee on Science Policy charge to the January 2004 Council:

1. To serve as a forum for dialogue about matters of science policy involving representatives of the AMS, government and quasi-government officials and other interested parties.
2. To be responsible for the selection of those elements of AMS meeting programs, such as lectures and panel discussions, which bear directly on such policy questions as are within the purview of the Committee.

3. To provide occasional advice to the Society on matters of broad scientific policy.
4. As a committee, and individually upon request, to interact with Federal agencies and policymakers.
5. To provide occasional advice about ways in which the Society can work favorably with other organizations on matters of science policy.
6. To conduct periodic reviews and appraisals of Society activities in areas of science policy, for example:
 - Policy Forums
 - The Society's relations with international societies and the international community
 - Scientific policies promoted by the Society, and strategies used to implement them
 - The ways in which the society collaborates with other organizations on matters of science policy
7. To prepare an annual report on the Committee's activities and goals for the AMS Council and for possible publication in the Notices.

2.8 Washington Office Report. Att. #8.

The ECBT received the attached report (#8) on Washington office activities since the last ECBT meeting.

2.9 2003 AMS Election Process.

The ECBT received the following report from Secretary Daverman:

This year's election marked the first time that AMS members were provided the option of voting electronically via a secure web connection. The AMS's service provider, Survey and Ballot Systems (SBS), handled all aspects of ballot distribution and tabulation, both paper and electronic. As of late October, the voting process has gone smoothly. SBS has proven to be an outstanding vendor of election services, flexible in their approach to setting up our election and extremely responsive to any questions, concerns, or adjustments in procedures.

The balloting process was implemented precisely as envisioned at the time the Council approved adding the option of electronic voting in January 2003. In late May, all members who had elected to receive the annual email reminder to update their membership information, approximately 18,000 members, were sent email notifying them that they would be sent their individualized voting instructions in email in the fall unless they elected to receive a traditional paper ballot. All remaining members were set to receive traditional paper ballots. Those receiving paper ballots retain the option to vote online after receiving their ballot materials.

At the end of August, SBS emailed voting instructions to 17,300 members and sent paper ballots to the remainder. The email contained the link to SBS's voting web site and the two pieces of information that individuals needed to login in to vote: their AMS member code and their E-Signature (a unique code generated for each member by SBS). This same information was included with each paper ballot, allowing these members to also vote online. All the candidate materials were available online as well as in the September issue of *Notices*.

Reminders were sent on October 1 and October 30 to those who were scheduled to vote electronically (only) but who had not submitted their votes (by either method) as of those dates.

Voting in this year's election ends at midnight on Friday, November 7.

See also item 0.2.

2.10 Report on Focused Planning for Membership. Att. #1.

The ECBT received the final report on the focused planning effort on membership (Att. #1). The report is the culmination of a year-long study of the role of membership in the Society, guided by a staff Steering Committee consisting of Diane Boumenot, Gary Brownell, Annette Emerson and Jim Maxwell. The Committee gathered input for the study from the Committee on the Profession during its fall 2002 and 2003 meetings, from exchanges with membership staff at other societies, from the ECBT at its May 2003 meeting, and from conversations with the Executive Director and the Secretary. In addition to this, Brownell and Maxwell have been involved in membership-related discussions at governing board meetings since the mid-1980's, and these experiences have also influenced the work of the Steering Committee.

The ECBT was impressed by the report and reacted favorably to it. They were asked to provide preliminary reactions to the following three recommendations, as a guide to preparation of materials to inform the discussion of these items at the May 2004 ECBT meeting:

Recommendation A: Make the back issues of *Notices* that are posted on the web (that is, all but the two most recent issues) accessible by member login only.

The ECBT was in favor of making some piece of the *Notices* available to members only.

Recommendation B: Establish a "Retired" dues category set at one-half of the Ordinary Low dues amount. Individuals utilizing this dues category should sign a statement indicating that they have retired.

The ECBT raised no objections to this recommendation.

Recommendation C: On printed materials such as the dues bill and new member application, change the word "Ordinary" in the dues categories.

The ECBT was in favor of changing "Ordinary."

The ECBT was asked to act on the following recommendation:

Recommendation D: Dues levels should be set annually based on the following principles:

- a. Dues should be raised as little as possible, and less frequently than annually.
- b. When a dues increase is recommended, the recommended rate of increase should not exceed the current or expected rate of inflation, even if dues have not been increased recently.
- c. Faculty salaries (ability to pay) should be one consideration among many, and not necessarily the most prominent.
- d. Direct and indirect costs of members-only services, membership development, and membership administration should be less than the total of individual dues.
- e. Dues increases should be consistent with the general trend in the costs of providing services to the profession and outreach.

The ECBT did not act on Recommendation D. Although it was agreed that dues should be set based on a collection of principles, rather than a formula, it was decided that the precise collection of principles needed further study. It was decided that a subcommittee of the ECBT, which should include pertinent staff members, should be appointed to study the matter and make a recommendation to the May 2004 ECBT.

2.11 Expansion of Eligibility for Life Membership. Att. #10.

The AMS Bylaws were recently amended to allow the eligibility and dues levels for life membership to be set by the Council, subject to approval of the Board of Trustees. The EC voted to recommend the attached proposal (#10) for expanding eligibility for life membership, with associated new dues levels, to the January 2004 Council. In anticipation of the Council's approval, the BT approved the proposal. It was noted that the September 2003 Committee on the Profession had reviewed the proposal and voted to recommend it to the January 2004 Council.

2.12 New AMS Prize for Outstanding Mathematics Department. Att. #12.

The ECBT reviewed the attached proposal (#12), which was recommended by the Committee on the Profession. The ECBT voted to recommend the proposal, with the following changes, to the January 2004 Council:

Remove the word "Mathematics" from the title of the award and the first line of the award description.

Under "Eligibility," change the last word ("mathematics") to "mathematical sciences."

It was also noted that the prize will be funded by money from operations.

2.13 Summer Research Conferences.

For many years, the Society has maintained a program of summer conferences, seminars, and institutes. The current version of the program is joint with the Society for Industrial and Applied Mathematics (SIAM) and the Institute for Mathematical Statistics (IMS). It was funded by the National Science Foundation in 1999, and the funding is sufficient to support the program through summer 2005.

During the coming year, the Society will have to decide whether to apply to NSF for funding in future years, and, if so, in what format the program should go forward. The decision will be made in two steps. The Committee on Meetings and Conferences (COMC) will discuss the issue and make recommendations at its April 2004 meeting. Subsequently, the ECBT will consider those recommendations at its May 2004 meeting.

In advance of this process, President Eisenbud suggested that the ECBT discuss the matter, possibly to inform the discussion at COMC in April.

The ECBT received background information and had a brief discussion. Various opinions were expressed, but there was no consensus, except to wait and have a thorough discussion at the next ECBT meeting.

2.14 Copyright Policy. Att. #13.

At its recent meeting, the Committee on Publications (CPub) discussed the Society's copyright policy at some length. While the policy is fundamentally sound, there are some problems with its implementation that need to be fixed. Background information is contained in Att. #13.

The ECBT approved CPub's recommendation that the Board and Council adopt the following slightly revised copyright policy, which would allow the staff to modify the Consent to Publish form in order to address all perceived problems:

NEW VERSION
AMS Copyright Policy
(for journals, proceedings, and collections)

- AMS desires that authors transfer copyright but permits authors to hold copyright in exchange for broad rights given to the AMS,
- AMS will allow a flexible range of reproduction, including inclusions of AMS published articles in publications of other publishers without permission or fees and electronic distribution over internet as long as it is not part of a document delivery service,
- AMS will at the time of publication permit an author to dedicate an article to the public domain 28 years after the date of publication.

2.15 Associate Membership in ICIAM. Att. #11.

The International Council for Industrial and Applied Mathematics (ICIAM) is an umbrella organization whose members consist of mathematics societies whose primary purpose is to promote the interests of industrial and applied mathematics. One of the key ways in which ICIAM promotes applied mathematics is by holding a Congress every four years, and the most recent was held in Sydney, Australia, in July 2003. In addition to the quadrennial congresses, the Council meets once each year to consider matters of common concern among the various member societies. In 1999, ICIAM created a new membership category of “Associate Member” in order to allow mathematics societies whose focus was not primarily on applied mathematics to join. The AMS therefore has an opportunity to join ICIAM as an Associate Member. Background information is attached (#11).

The ECBT voted to recommend to the January 2004 Council that the AMS become an associate member of ICIAM.

2.16 Financial Guidance: Cost Allocations. Att. #28.

Chief Financial Officer Pass supplemented the attached report (#28) with an oral presentation on cost allocations.

2.17 2004 Operating Plan.

The 2004 Operating Plan was mailed to all members of the ECBT on October 24, 2003. The plan includes the following sections for each division or department:

- I Mission
- II Ongoing Activities and Functions
- III Trends and Issues
- IV Future Projects and Activities
- V Financial Implications

Comments or questions on the Plan were invited, but none were offered.

It is noted for the record that after Section VI (Report on Projects and Activities) is completed in spring 2005, a complete, official copy of the 2004 Operating Plan will be attached to record copies of the May 2005 ECBT minutes.

2.18 Motions of the Secretary.

The following motion was approved by acclamation:

The Executive Committee and Board of Trustees of the American Mathematical Society record their thanks to Robert L. Bryant for his service to the Society as a member of the Executive Committee during the past four years. The ECBT expresses its gratitude to Professor Bryant for his thoughtful participation and express the hope that he will continue to be available to serve the Society in other ways.

2C EXECUTIVE COMMITTEE AND BOARD OF TRUSTEES CONSENT ITEMS

2C.1 May 2003 ECBT Meeting.

The ECBT approved the minutes of the meeting of the Executive Committee and Board of Trustees held May 16-17, 2003, in Providence, Rhode Island, which had been distributed separately. These minutes include:

- ECBT open minutes prepared by the Secretary of the Society (<http://www.ams.org/secretary/ecbt-minutes/ecbt-minutes-0503.pdf>),
- ECBT "open" executive session minutes prepared by the Secretary of the Society,
- BT closed executive session minutes prepared by the Secretary of the Board.

2I EXECUTIVE COMMITTEE AND BOARD OF TRUSTEES INFORMATION ITEMS

2I.1 Report on Joint Policy Board for Mathematics (JPBM).

JPBM met on December 7, 2003. In the past few years, responsibility for planning and conducting each meeting has rotated among the three member societies. In addition to the usual discussion about policy and mutual concerns, a portion of the meeting was devoted to refining this process to make it work more smoothly. The American Statistical Association has been invited to join JPBM.

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

The Executive Director is authorized to make changes in these registration fees and report them to the ECBT.

The Executive Director approved the elimination of registration fees for participants at the AMS-IMS-SIAM Summer Research Conferences (SRCs). This change will have no appreciable financial impact since all but a very small amount of the costs formerly covered by

the registrations fees can be recovered from the NSF grant supporting the conferences. This change brings the SRCs in line with other conference centers in the US and Canada which do not collect participant registration fees.

2I.3 Actions of the Agenda and Budget Committee (ABC).

At its October 10, 2003 meeting in Providence, Rhode Island, the ABC took the following actions:

- On November 20, 2003 (the day before the ECBT meeting), Courant Institute will celebrate Past President Cathleen Morawetz's life and work in honor of her eightieth birthday. There will be lectures in the afternoon and a dinner that evening. The ABC approved the following resolution on behalf of the ECBT, so it can be sent in time for the celebration:

The Executive Committee and Board of Trustees take great pleasure in sending greetings on behalf of the American Mathematical Society to Professor Cathleen Synge Morawetz on the occasion of the celebration of her Eightieth Birthday.

Professor Morawetz served the Society with exceptional dedication, in many roles and for many years. Her steady hand and clear judgment as a member of the Board of Trustees guided the leadership of the Society to make far-sighted decisions that solved difficult problems in difficult times. Her statesmanship and wise counsel as President advanced the cause of all mathematicians and strengthened every aspect of the Society's activities. She was an inspiring President, remembered fondly by all.

For everything that she has done for mathematics and for mathematicians, the American Mathematical Society expresses its deep appreciation and sincere gratitude, and wishes her the very best on this most happy occasion.

- The ABC agreed to reschedule the October 2004 ABC meeting from October 8 to October 15, 2004.
- The ABC set the schedule for the November 2003 ECBT meeting.

2I.4 von Neumann Centennial Celebration. Att. #19.

In October 2003, a celebration was held in Budapest to mark the 100th anniversary of the birth of John von Neumann. AMS Past President Arthur Jaffe of Harvard University attended to represent the Society. His report is attached (#19).

Past President Jaffe read excerpts from letters of greetings by David Eisenbud, President of the AMS, and by Bruce Alberts, President of the National Academy of Sciences, and presented the originals of these letters to E. Szilveszter Vizi, President of the Hungarian Academy. He also participated in the dedication of a large stone plaque on the birth home of John von Neumann, sponsored jointly by the Bolyai Mathematical Society (Hungarian Mathematical Society) and the AMS.

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

The BT discussed items 3.1.1 through 3.1.6 and then voted to approve the 2004 budget as presented, except for the modification noted in 3.1.3 below.

3.1.1 Discussion of Fiscal Reports.

The BT received and discussed various fiscal reports, as well as a memo discussing the 2003 projected and 2004 budgeted operating results.

See 3.1.

3.1.2 Allocation of Supplemental Economic Stabilization Fund (ESF) Income.

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

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 income from the Supplemental ESF for 2004, determined according to the guidelines approved by the BT, is \$661,800. This amount has been included in the 2004 budget and has been revised from the amount approved by the Board at the May 2003 ECBT meeting, which was \$662,600.

See 3.1.

3.1.3 Appropriation of Spendable Income from Unrestricted Endowment. Att #20.

The BT voted to change the policy they set in May 2001 as follows (changes are in bold):

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, and outreach. Using such income should be a regular part of our operations rather than an exceptional situation.

It was noted that the total amount available as spendable income for operations in 2004 is estimated to be \$171,000. This amount excludes the \$50,000 expected to be used to match contributions to the Centennial Fellowship Fund, which does not currently affect operations. (See also item 2E.5.)

The BT voted that, in 2004, the income should be used on the following projects, which are described in **Att. #20**:

Young Scholars Program	\$ 50,000
MR Citations Project	\$ 45,000
<i>What's Happening in Mathematics</i>	\$ 25,000
Project NExT Support	\$ 15,000
STIX Font Project	\$ 15,000
AAAS Mass Media Fellowship	\$ 10,000
Mathjobs system	<u>\$ 10,000</u>
Total	<u>\$170,000</u>

3.1.4 Capital Expenditures - 2004 Capital Purchase Plan.

See item 3.1.

3.1.5 Capital Expenditures - Approval of Specific Purchases.

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

3.1.6 2004 Salaries.

See item 3.1.

3.2 Investment Committee Report. Att. #21.

The Investment Committee met on October 10, 2003. A report is attached (**#21**).

The BT approved the following recommendations from the Investment Committee:

1. The current asset allocation policy should be adjusted as follows:

Asset Class	Old Policy	New Policy
Equity investments (including foreign equities)	70%-85% of total	65%-85% of total
Foreign equities	Up to 10% of total	Up to 10% of total
Alternative investments	Not specified	Up to 10% of total
Fixed income	15%-30% of total	15%-25% of total

2. An Alternative Investment class should be established. Included in this class will be REITs, hedge funds, venture capital, emerging markets, precious metals, etc. The allocation to this class should be up to 10% of the total long-term portfolio. Apart from the current REIT fund holdings, there are no plans for additional alternative investments.

3.3 Economic Stabilization Fund Increment.

The BT reviewed a report showing the current and projected status of the base portion of the Economic Stabilization Fund, and was informed that additions to the base or supplemental portions of the Fund in 2003 are not contemplated at this time.

3.4 Trustees' Officers.

The BT elected John B. Conway Chair of the Board, and re-elected Donald E. McClure Secretary of the Board, for the term February 1, 2004 – January 31, 2005.

3.5 Trustees' Committees, etc. Att. #22.

The BT reviewed the list in Att. #22 and advised Board Chair Friedlander as follows:

Reappoint Linda Keen to the Investment Committee.

The Trustees are happy with their policy committee assignments, so reappoint them for 2004.

3C BOARD OF TRUSTEES CONSENT ITEMS

3C.1 Request for Support of Speakers at 2005 AAAS Annual Meeting.

The BT authorized \$10,000 to support speakers for the Mathematics Section at the 2005 annual meeting of the American Association for the Advancement of Science (AAAS).

3C.2 Retirement Plan Amendments. Atts. #23 & 24.

The BT approved the attached retirement plan amendments (Att. #23 and Att. # 24).

3C.3 Tax-Deferred Annuity Plan Amendments. Atts. #25 & 26.

The BT approved the attached tax-deferred annuity plan amendments (Att. #25 and Att. #26).

3C.4 Recognition for Length of Service.

The BT approved the following proclamations for the employees noted.

Twenty years of service:

Cheryl Norato
Lorraine A. Sprague

The Board of Trustees takes great pride in recognizing _____ for twenty years of faithful service. It is through the dedication and service of its employees that the Society is able to effectively serve its members and the greater mathematical community. The Trustees offer _____ their special thanks and their best wishes.

Twenty-five years of service:

Ward Bouwsma
Maryse A. Brouwers
Drury R. Burton
Alice M. Pinter
Patricia Zinni

The Board of Trustees takes great pride in recognizing _____ who has devoted twenty-five years of service to the Society. The Board expresses its profound gratitude for this long record of faithful service. It is through the dedication and service of its employees that the Society is able to effectively serve its members and the greater mathematical community. The Trustees offer their special thanks and their best wishes to _____ for being such a loyal employee and wish her/him well in the future.

Thirty years of service:

Kyle T. Antonevich
Penelope Pina

The Board of Trustees takes great pride in recognizing _____ for the outstanding distinction of serving the Society for thirty years. The Board expresses its profound gratitude for this long

record of faithful service to the Society. It is through the dedication and service of its employees that the Society is able to effectively serve its members and the greater mathematical community. The Trustees offer their special thanks and their best wishes to this loyal employee.

Thirty-five years of service:

Barbara J. Veznaian

The Board of Trustees takes great pride in recognizing _____ for the outstanding distinction of serving the Society for thirty-five years. The Board expresses its profound gratitude for this long record of faithful service. It is through the dedication and service of its employees that the Society is able to effectively serve its members and the greater mathematical community. The Trustees offer their special thanks and their best wishes to _____ for being such a loyal employee and wish her well in the future.

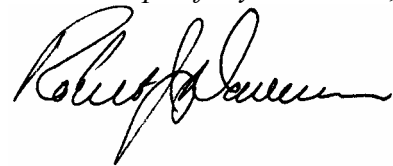
3C.5 Resolutions for Retirees.

The BT approved the following resolution for the employees noted.

Ward Bouwsma	twenty-five years
Regine Fadiman	twenty-eight years
Monica Foulkes	seventeen years

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

Respectfully submitted,



Robert J. Daverman, Secretary
Knoxville, Tennessee
December 12, 2003

Focused Planning on Membership

Final Report

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Introduction

The Membership Focused Planning Process. The path to this point in the current planning effort on membership has been an extended one. Staff first proposed that the AMS undertake special planning efforts at the May, 2002, meeting of the Executive Committee and Board of Trustees (ECBT). Five areas of Society operations were selected for what is termed focused planning. Focused planning has a more limited scope than the long range planning effort conducted by the Society at the start of the 1990's but an expanded scope when compared to the operational planning conducted annually in each division of the Society. The ECBT approved the outline of the planning process and charged staff to proceed with planning in four designated areas: meetings, membership, publication production, and (corporate) data collection and delivery. They selected membership and meetings as the first two areas for focused planning.

The work plan for focused planning for membership was reviewed by the Committee on the Profession (Coprof) at its September 2002 meeting. Comments and suggestions from that meeting were incorporated into the work plan, and a Steering Committee of AMS staff¹ was named to lead the effort. An interim report on the planning effort was presented to the May 2003 ECBT. In late July Secretary Daverman and Executive Director Ewing spent time with the steering committee discussing a preliminary list of conclusions. Coprof reviewed initial versions of the sections that make up the report at its September 2003 meeting, including draft versions of the report's conclusions. Feedback from all of these sources has been incorporated in the work of the Steering Committee and is reflected in the report that follows. The Steering Committee believes that this report will serve as a valuable resource for any future in-depth reviews of membership.

The Report. The goal of this report is to provide a planning framework which will guide the Society's membership development efforts over (at least) the next three to five years. The conclusions section is the heart of this framework: it describes the principles and goals that will guide the staff responsible for membership development as they prepare each year's operating plan. Parts 2 through 6 of the report document key areas of the work of the Steering Committee and they are intended to provide explanation of, and support for, the conclusions presented in Part 1.

¹ Members of the Steering Committee are Gary Brownell, Deputy Executive Director; Jim Maxwell, Associate Executive Director; Diane Boumenot, Manager of the Membership and Programs Department; and Annette Emerson, Public Awareness Officer.

The Report's Conclusions. The conclusions reflect the Steering Committee's understanding of the role of membership in the Society - past, present and future - from the Committee's membership-related experiences over the past eighteen years, its intensive study of membership issues over the past year, and its consultations with volunteer leadership.

The conclusions in Part 1 fall into two groups: 1) those that will guide the staff as they plan and carry out their membership development activities over the next several years and 2) those that recommend changes in membership that require approval of one or more of the governing bodies of the Society. In the latter instance, an agenda item with the specific proposal for which approval is requested will be part of the May 2004 ECBT.

Part 1. Conclusions

Conclusion 1: The AMS should welcome new members into the Society and help them to become more involved in the AMS.

Of all members, new paying members are in the most danger of not renewing membership, particularly in the first year. This includes new members in the Ordinary Entry and Reciprocity categories. The AMS needs to make an effort to show new members that they are noticed and appreciated. Possible initiatives include new member packets, membership cards, flyers on how to utilize their benefits, and mailed cards which mark each anniversary reached while in the Ordinary-Entry category.

Helping new members to utilize their benefits, or participate in any way, is the best strategy for keeping them as members. To further involve Nominees or younger members in the activities of the Society, staff will seek out interactions with these groups by holding focus groups at meetings, e-surveys, and by developing volunteer opportunities. For instance, the society could develop better web pages for these groups with their input. The benefit will be not only involvement for the young members, but improved feedback about their needs. **[Staff implement]**

Conclusion 2: Retention can be improved by helping members make critical transitions between AMS membership levels.

For AMS members who renew year after year, there will usually come a transition point where the cost of membership changes significantly. These transitions include moving from the Student or Nominee category into Ordinary membership, moving from Ordinary Entry into Ordinary Low, or moving from the Low to High income bracket within Ordinary dues. Another important transition is from Ordinary to either Emeritus or Life. The AMS should benchmark the current levels of these successful transitions and try to improve on them. Qualitatively, they should take action to improve the experience for members by providing timely, clear information, and perhaps marking the occasions with notes or tokens of appreciation. In the case of Life members, listing the new Life members in *Notices* might show appreciation, or perhaps other means can be found to promote the proposed expanded Life membership category. In the case of Nominees, careful tracking of them during the period before they finish their degree will make it much easier to invite them into membership afterwards. **[Staff implement]**

Conclusion 3: Following up on dropped members will improve retention and overall retention strategies.

Members have many reasons for dropping membership, and all of these reasons are important information to those who design retention efforts. Complaints, and an understanding of which members feel they don't belong, are vital to understanding member needs.

To take these complaints seriously, an effort needs to be made to collect this information. "Exit surveys" of dropped members are typically conducted around the time the member's benefits are cut off. The AMS should implement these surveys either through mail or by telephone. Staff can carefully test each method. Results are likely to show that a certain percentage are willing to renew membership. After testing various "exit survey" strategies, staff can then design a long-range plan to incorporate this effort into the membership development plan. **[Staff implement]**

Conclusion 4: Members-only benefits are important.

Benefits are an important incentive for members to join and renew. Leaving aside the many AMS activities which benefit the community as a whole, there ought to be a significant set of advantages left which are available only by virtue of AMS membership. And yet, the value of some of these long established benefits has lessened since the arrival of the Internet. The *Notices* and *Bulletin* are both freely available on the Internet. Members continue to receive discounts on publications and meeting registrations. While our members are still listed in the CML and still may receive a paper copy every other year, the CML lives on the web, available to all, and the web product is, of course, more up to date. A handful of electronic services are for members only, including new job ads sent by email each week, e-CMP bibliographic notifications, the email forwarding service, and the new *Headlines and Deadlines* email news service. Overall, however, the value of Society products reserved exclusively for members has diminished. The chance that a mathematician will be inconvenienced or regretful about not being a member is greatly reduced. Very few similar societies have made both the member publications and the membership directory publicly available.

There are many ideas for new members-only benefits which deserve investigation. These include special meetings follow-up presentations on the web (for instance, write-ups or streaming video of important lectures or talks); supplemental *Notices* materials such as bibliographical or photographic materials related to articles, or more letters to the editor; occasional books online; or new career information for graduate students.

Another member benefit seen in many other societies is the subject area “section”. While such groups have typically developed their own means of communication and interaction, today it seems possible to take advantage of web capabilities and explore the idea of e-sections. While there may or may not be an additional dues fee for these sections, each section, on a different mathematical area, will be open to AMS members only. The “virtual community” idea will be investigated further. **[Staff continue to investigate]**

Conclusion 5: Reciprocity agreements with U.S. professional societies in related fields may help to bring in new members.

There are individuals with degrees in mathematics, or a serious interest in mathematics research and applications, who now work in related fields. This is particularly true for those who received a PhD during a time of severe unemployment. The AMS could welcome such individuals into membership by forming reciprocity-style agreements with some professional societies in related fields. An appropriate choice would be a society where there was not already a large overlap of members with the AMS. Each society could agree to a certain discount for joint members, either a percentage or a dollar amount.

While it may be possible to bring in new members in this way, agreements which serve both sides are difficult to reach. Further investigation is needed to determine whether such a plan is feasible.

Alternatively, a new dues category or other methods could be used to offer a special rate to those in allied professions who are interested in mathematics and the society. **[Staff continue to investigate]**

Conclusion 6: New member recruitment should be improved by testing new methods, analyzing the results, and incorporating the best strategies into future plans.

Inviting mathematicians into membership is a vital step in building appropriate membership levels. Member recruitment can be accomplished using member referral efforts and also by innovative direct mail techniques. Any mailing list developed should be targeting a particular group, and the package and offer should be specifically tailored for that group. Sample member publications and extra months of membership are the types of incentives that should be included. Recruitment strategies should be tested before incorporation into an annual marketing plan, and results of each effort, including long-term results, should be carefully tracked so that each year’s campaign can be adjusted.

Specific groups to be targeted include overseas mathematicians, since the mathematical community is so international, and former members who have

lapsed. While each message should be carefully designed for each audience, it's important to emphasize the benefits of membership to the individual, which include tangible benefits as well as a means of serving the mathematical community as a whole. **[Staff implement]**

Conclusion 7: Demographic research on members can be used to improve retention efforts.

It's important to gather as much information on our members as is practical. This process begins at the time of enrollment, on such issues as reason for joining, type of employer and types of services desired. This data should be collected early in the term of membership, and tracked over time. From time to time, special data which members may have some reluctance to provide could always be collected after enrollment in an optional, anonymous manner.

Once enrolled, retention levels of members should be tracked by characteristics such as age, gender, length of membership, type of employer, dues category, country of birth, and method of billing. This information is useful in, first of all, determining which groups are most likely to lapse, and secondly, in helping the Society to target programs and services for members in danger of discontinuing membership. Also, research into current data may uncover clues to some of the tougher challenges in member recruitment. For instance, what are the characteristics of the Nominee members who do enroll immediately in Ordinary membership? Also, what differences are there between U.S. mathematicians born outside the U.S. who do become members, compared with what we know of foreign-born U.S. mathematicians overall? **[Staff implement]**

Conclusions With Recommendations

Conclusion 8: The value of Notices as a member benefit has been diminished by the open electronic access to Notices.

Remedies for the current state (as described in Conclusion 4) most likely rest with the member publications, specifically, *Notices*, since the CML is a joint venture with other societies. Currently, each *Notices* issue is placed online up to a week earlier than members receive it. Two possible methods of returning the *Notices* to a members-only benefit are to make the two most recent issues online available to members only, or, make the two most recent issues available to all and all other back issues available to members only. Alternative schemes include

limiting access to certain sections of the *Notices*, or providing new supplementary materials on the web with members-only access.

Re-establishing *Notices* as a member-only benefit will enable the AMS to offer, at some point in the future, electronic memberships. The AMS currently mails to all members, even low-paying members in Category-S countries, but in the future, if needed, it would be good to have the ability to offer cost-saving electronic-only memberships.

Recommendation A: Make the back issues of *Notices* that are posted on the web (that is, all but the two most recent issues) accessible by member login only. [Will require ECBT recommendation to Council]

Conclusion 9: The dues schedule should allow retired members to pay an appropriate rate.

The current structure of dues categories is intended to accommodate various sectors of the mathematics community, and, overall, to maximize the number of members.

There are individuals who join the AMS somewhat late in their careers. As they retire, they find that they do not meet the qualifications of Emeritus status (20 years of Ordinary membership). They have two choices: continue at the Ordinary or Reciprocity rate (often viewed as too high) or enter the “unemployed” category (by signing a statement that they are seeking employment, which of course they are not). To follow the common example among many societies and keep as members those who would very much like to keep up their ties to the community, the AMS should accommodate such individuals with a “Retired” dues category, set at the same level as the current Ordinary Entry (one half of the Ordinary-Low dues amount). This Ordinary-Exiting (ORD-X) dues arrangement will serve to bring these members, eventually, into Emeritus status.

Recommendation B: Establish a “Retired” dues category set at one-half of the Ordinary Low dues amount. Individuals utilizing this dues category should sign a statement indicating that they have retired. [Will require ECBT recommendation to Council]

Conclusion 10: The term “Ordinary” in the membership categories is awkward and unusual.

According to the Bylaws, all individuals fall into two membership classes: “Contributing” and “Ordinary” (and the number of Contributing members is small, fewer than 80 each year). Within the class of Ordinary members, a variety of dues categories have been established over the years, each with its own name,

such as Reciprocity, Life, Category-S, as well as Ordinary-Low, Ordinary-High, and Ordinary-Entry. Incorporating the term “Ordinary” into several of these categories, causes some confusion between the class of membership and specific dues rates. One example of this confusion is the practice of reporting on Contributing members as if they are a sub-category of the Ordinary class of members. It would be much clearer if all dues levels had distinct names, and the term “Ordinary” was reserved for the overall membership class. Therefore, leaving the Bylaws unchanged but switching the Ordinary dues category names such as Ordinary-Low, and Ordinary-Entry to other names would help to clarify the dues categories.

Most importantly, the term “Ordinary” is awkward and difficult to use in membership marketing materials. Since all other societies use words such as “regular”, “full” or “professional”, and the term “ordinary” does not have positive connotations, the AMS could more easily market this category of membership if it had a more appealing name.

Recommendation C: On printed materials such as the dues bill and new member application, change the word “Ordinary” in the dues categories. [Staff continue to investigate]

Conclusion 11: The AMS should rely less on a formula for increasing dues rates.

The Society currently considers increasing dues based on a formula developed many years ago. The formula is followed most years, with an occasional pause (the formula indicated an increase, but no increase was made). The principle behind the formula seems to be that dues should increase according to the increase in the rate of pay of members. This formula can be looked at as a measure of the ability of members to pay. This is good, but it omits many other important factors, and because this measure is backed by a formula, long tradition, and actions of governing bodies, it naturally carries more weight and is more visible than other factors. Those other factors include:

- Willingness of members to pay dues at a particular rate.
- Cost of member services, including cost of member benefits.
- Subsidy of Society programs from other sources.
- Increase or decrease in paying members.
- Effects of efficiency and productivity increases.

The following are principles that should be followed in proposing dues rates:

- a. Dues should be raised as little as possible, and less frequently than annually.

- b. When a dues increase is recommended, the recommended rate of increase should not exceed the current or expected rate of inflation, even if dues have not been increased recently.
- c. Faculty salaries (ability to pay) should be one consideration among many, and not necessarily the most prominent.
- d. Direct and indirect costs of members-only services, membership development, and membership administration should be less than the total of individual dues.
- e. Dues increases should be consistent with the general trend in the costs of providing services to the profession and outreach.

These principles do not constitute a formula. They constitute a statement that dues should be increased only when it can be shown that there is a need or that a dues increase is otherwise desirable. It is recognized that in years when dues increases should be made, staff will have a heavier burden justifying the recommendation.

Recommendation D: Dues levels should be set annually based on principles (a)-(e) above. [Will require ECBT recommendation to Council]

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Part 2. AMS Membership History

The AMS was founded in 1888 “to further the interests of mathematical research and scholarship.” Founder Thomas S. Fiske wanted to foster a sense of comradeship among Americans interested in mathematics—to recreate the fraternal and scholarly society he witnessed at Cambridge University, where mathematicians organized meetings regularly to share their research and connect with their colleagues. Fiske’s circle of friends gradually extended to include fellow researchers beyond the initial group from a handful of institutions. Meetings increased in frequency and size, funds and prizes developed over the years, and publications expanded as the meetings and research grew.

Numbers and categories of individual members

According to Green and Laduke’s record¹ of the year 1888, the then-New York Mathematical Society’s “desire to publish a journal, the *Bulletin*, provided impetus for a major membership drive.” In 1890 there were only 16 members paying \$2 dues annually. As early as 1891, AMS President McClintock initiated a member recruitment campaign by obtaining mailing lists of college teachers and other mathematicians from publishers. That seems to have been effective, as by the end of that year the AMS had 210 members paying \$5 dues. By 1920 there were 770 members. Archibald’s *Semicentennial History of the American Mathematical Society, 1888-1938* devotes attention to one special period of membership recruitment effort: the 1920s saw a major Endowment Fund campaign during which “the membership campaign was constant, not only to fill up gaps caused by members lost each year, but also to make the income from membership still larger.” He concluded that “the number of new members in a given period is thus considerably greater than the increase of total membership in that period [through 1930].” See **Table 2** for comprehensive picture of member counts and dues rates through 2000.

A note about membership and dues

There are two important concepts to note regarding AMS membership. First, from the beginning individuals were “elected” to membership (in 1938 by the Council, then in 1948 by the Executive Committee, then since 1983 delegated to the secretary and associate secretaries): election or acceptance of membership by the leadership has been almost automatic, and in 1973 the practice of requiring two supporting signatures was abandoned. Secondly, from the beginning also, dues were generally set at a level to cover the cost of services—originally tied to cost-per-page production of (at first, only) the *Bulletin of the AMS*. (Since 1891 each member’s annual dues have included the *Bulletin*.) Records show that receipts from dues (annual, plus initiation fees from new members, life

membership fees), gifts and subventions went primarily towards supporting publishing, and that the mounting printing costs during WWI forced the Council in 1920 to recommend—among other things—an increase in dues to \$6 (from the \$5 of 1891-1920) and in the regular subscription price of the *Bulletin* from \$5 to \$7. Interestingly, Archibald notes² that despite this dues increase (in effect from 1921-30) membership jumped from 770 in Dec. 1920 to 1,005 in Dec. 1921 and to 1,926 in 1930.

Exceptions in dues payments have been made (AMS members who were enlisted in the U.S. and Canadian armed forces during WWII were granted nominal dues of \$1.00), and gradually other factors have been introduced into the dues formula—salary level, percentage increase of salaries as reported by institutions to AAUP, and new member categories.

Table 2: A History of Member Counts, Dues, and Other Items

Year	Number Members	Number Ordinary Member	FT Faculty Estimates	Nbr PhD's Awarded prev 5 yrs	Dues Amount (Ord-H)
1890	23				\$2
1895	268				\$5
1900	347				\$5
1905	488				\$5
1910	630				\$5
1915	721				\$5
1920	770				\$5
1925	1,542			114	\$6
1930	1,926			237	\$6
1935	1,863		4,000	398	\$8
1940	2,336			380	\$8
1945	2,828			362	\$8
1950	4,411			470	\$10
1955	4,892			1,056	\$14
1960	6,725			1,254	\$14
1965	10,923		10,753	2,082	\$14
1970	14,197		15,655	4,325	\$20
1975	15,907		15,144	6,188	\$32
1980	19,994		16,022	4,690	\$48
1985	19,837	10,238	17,849	3,591	\$66
1990	26,761	11,428	19,411	3,765	\$92
1995	29,795	10,729	18,248	5,252	\$116
2000	27,530	10,698	19,007	5,695	\$132
2002	27,042	10,655	20,007	5,285	\$140

Member categories

Over the years the AMS established new categories (each with a special dues rate) in response to the needs both of special groups (Category S and Ordinary Low, for instance) and of the Society (to be “inclusive” of all those who qualified as researchers).

1898. Life category established, upon payment of \$50 in one sum, exclusive of initiation fee. Later the dues amount was set on an actuarial basis. In 1941 the Life category was discontinued as an option for new members, but was reinstated under different terms in 1986 (and modified in 1987).

1921. Foreign members were reinstated and re-established after WWI, starting with individuals in the “British Empire”, France, Italy, Germany and Greece.

1922. The first **Reciprocity** agreement (with the London Mathematical Society) entitled members to a half the Ordinary high dues rate.

1923. Sustaining Member category was established; dues of at least \$100 annually entitled those members to (among other privileges) nominate a limited number of regular members without dues. However, “by 1933 the declining income from this category made it clear that sustaining memberships were not a stable source of income”³ and thereafter efforts concentrated on Contributing members.

1934. Contributing membership was introduced (annual dues were a minimum of \$15 and those individuals were not identified in the List of Members); the current dues rate is 1.5 times the Ordinary-high rate.

1965. Joint membership (“husband-wife joint memberships”) was proposed.

1972. Student dues rate was established (to which **Unemployed** was added in 1974).

1974. Ordinary-high and -low member dues categories were designated based on salary.

1983. External Membership initiated all individuals residing in a developing country which did not have a mathematical society.

1994 Category S (formerly called External Membership) in effect, with dues set at \$16 (the value of two MR reviewer coupons), and made individuals in dollar-poor countries eligible regardless of whether that country had a mathematical society.

In 1934 the class of **Institutional Contributing Membership** was introduced, in which a set amount of dues—tied to the Society’s cost-per-page publication costs—allowed a nomination of one ordinary membership. The formula for institutional dues was also tied to the amount of research activity (number of pages) published in specified research journals (originally *Bulletin*, *Transactions*, *American Journal* and *Annals*).

Institutional dues have always included a number of (mostly graduate student) “gratis” **Nominee** members (at first, for a limited time of two years). The Institutional Member program serves mathematics departments and familiarizes them with the AMS; this is achieved through the Society’s distribution of *Notices*, provision of a discounted price for AMS primary journals and MR Database Fee, offer of employment and career services, and acceptance of graduate students as members. Institutional members (currently 550) have been valuable generators of research and survey responses, but the AMS has also always hoped that among the significant number of Nominee members at those institutions—approximately 8,000 in 2003—many would naturally become permanent, paying members. In 2002 (the most recent full year from which data can be extracted) 281 Nominees and Students from among 6,724 in 2001 moved into paying membership categories (mainly Ordinary-Entry). Furthermore, of the 2001 Nominees and Students, 2211 dropped membership and 4136 remained members.

The potential pool of members

AMS members have always come primarily from mathematics departments in academic institutions. But what percentage of all mathematics faculty are members of the AMS? It has been difficult to define from the beginning (when American institutions first granted degrees in mathematics) the number of mathematicians who were potential AMS members: In times past (as now) some mathematics departments have granted degrees in other fields such as physics, astronomy, mechanics, statistics, and computer science. **Table 2** shows the estimated number of full-time mathematics department faculty at four-year schools compared with the number of AMS Ordinary members.

Highlights regarding doctorates—potential AMS core members—include: between 1862 and 1934 a total 1,286 Ph.D.s were awarded in the U.S. and Canada (over half were granted from only six institutions, and 168 were to women); as of 1935 there were 4,444 mathematics faculty in the U.S. and Canada (of those 1,263 were AMS members, 1,333 were MAA members, and 828 were members of both societies); the 1950s saw the establishment of new colleges and universities, the NSF underway, and a post-war explosion of the number of Ph.D.s granted three times the number in the 1930s (but presence of women declined dramatically); at the end of the 1960s the number of Ph.D.s granted from U.S. schools was over 1,100 vs. under 300 at the beginning of the decade (and the number of degrees to women went from 19 in 1960 to 63 in 1969); almost 1,300 Ph.D.s were granted in 1972—the peak; in the mid 1980s nearly 800 degrees were awarded (the level first

attained in 1965); in 1987 more than half of the Ph.D.s from U.S. institutions were awarded to foreign students.

Recruitment and retention programs

Over the years the Society has re-examined and offered new dues structures, programs and tangible member benefits as a way of recruiting and retaining members. Groups targeted for recruitment have included mathematicians who published in research journals, graduate students in Ph.D. programs and faculty at U.S. institutions, members of other math societies, attendees at meetings, individuals who have purchased AMS books, mathematicians in countries with math societies that have reciprocal dues agreements with the AMS, among others. In 1934, after AMS Pres. Coble mailed out a letter on the fiscal state of the AMS, AMS member Prof. Ingraham (on leave from U. Wisconsin) traveled to 85 institutions across the country to secure individual contributing members and sustaining and contributing institutions, which resulted in 50 renewing or new institutional members and 100 contributing members.

In the effort to retain existing members the AMS has developed and adapted methods to communicate with its existing members—in the *Bulletin*, *Notices*, at meetings, via mail, and in recent years by email and the website. Electronic methods have offered alternative, efficient, secure and lower-cost ways to alert members about dues and subscription renewals, updating their address and contact information, AMS elections, news, programs and services, ordering publications, etc.

Those who have produced the *Combined Membership List* have long considered the Society's database of members the best maintained and perhaps the richest in detail of all the society member lists in that directory. Over the years the Society has made every effort to analyze, use, and not abuse its information about members and its methods of communications with members so that its members may choose their preferred method of communication, and not receive communications that were inappropriate, too frequent or too promotional. The AMS has solicited and listened to its constituent feedback regarding dues notices, promotional mailings, author tools, and email services. The Society has in turn invested heavily in developing the best methods to exchange information. The well-maintained member database and the sensitive use of communications have been strengths of the AMS.

Other mathematical societies formed

While the AMS remained focused on its mission to further research and scholarship, and solidified its membership in those areas, other mathematical

societies formed: MAA, SIAM and AWM. This indicates that for some segments of the mathematical community the AMS was not meeting their needs or wants. The separation of mathematics organizations thereby diminished the reliance of all mathematicians on the AMS and lessened the need for the AMS to focus on those segments of the community. The MAA was founded in 1915 “to advance the mathematical sciences, especially at the collegiate level”; it had 1,000 charter members, 12% of whom were women. SIAM was founded in 1952 “to foster progress in an area of science, applied mathematics, and to promote its application to other areas of science and industry”. AWM was founded in 1971, clearly to advocate for increased representation and to address unique issues. (The MAA elected its first woman president, Bernstein, in 1978; the AMS elected Robinson in 1984.) Based on the information gleaned from the histories of the three newer societies, they were founded by groups of individuals in the mathematical community who wanted representation or empowerment in the larger mathematical community and in society and the country more broadly. Each professional organization was founded amidst concerns of the times— the role of undergraduate mathematics in the profession and of mathematics education in the country, the role of applied mathematics after WWII, and the role of women in society and in the profession.

The AMS, a professional society

The AMS as an operation has grown dramatically since its founding, to the current and stable level of approximately 210 employees in 4 locations with a \$20 million budget. The Society has been fiscally responsible and respected for its management of an operation that supports publishing and services for the profession. However, the Society has outgrown the concept of member dues covering these operations and services provided. Furthermore, members have experienced an erosion of members-only services and benefits: the Internet as a medium for free, worldwide-accessible content and services has been a primary reason for the erosion of the perceived value of members-only benefits and professional society identification. The AMS developed some members-only electronic services (i.e. EIMS job posting notifications, e-CMP, and Email Forwarding) and continues to offer long-standing member discounts on publications and meeting registrations. But the Society made the *Notices*, *Bulletin* and *Combined Membership List* accessible on the web, freely and concurrently for all, while many other professional societies retained for their members only electronic access to comparable member publications, member directories and/or services on the web.

Management of the Membership Development Effort

For much of its existence the Society did not dedicate an ongoing staff position devoted to managing membership development: membership campaigns appear to have been conceived and executed at various times by a combination of Boards, Executive Directors, volunteers, and individuals in the Marketing, Professional Programs, and Member & Customer Services departments. In late 2002 the Society centralized Membership Development within the Professional Services Department, separate from its more recent situation within the Member & Customer Services Department.

Expanding the AMS Mission

The Strategic Planning Task Force Report of 1991 recast the AMS mission to support a broader mathematical community and purpose. The Society's Articles of Incorporation (1923) stated the mission as follows: "The particular business and objects of the Society are the furtherance of the interests of mathematical scholarship and research." The ECBT revised and the Council adopted in August 1991 an expanded AMS Mission Statement, in effect today:

The AMS, founded in 1888 to further the interests of mathematical research and scholarship, serves the national and international community through its publications, meetings, advocacy and other programs, which

- promote mathematical research, its communication and uses,
- encourage and promote the transmission of mathematical understanding and skills,
- support mathematical education at all levels,
- advance the status of the profession of mathematics, encouraging and facilitating full participation of all individuals,
- foster an awareness and appreciation of mathematics and its connections to other disciplines and everyday life.

The expanded AMS mission statement generated much discussion among the leadership. Its adoption was significant in that it moved the AMS, and its members, into the broader context of the mathematical profession.

Footnotes

¹ *A Century of Mathematics in America, Part II*, edited by Peter Duren, Providence, AMS, 1989, page 381

² *Semcentennial History of the American Mathematical Society 1888-1938*, by Raymond Clare Archibald. NY, AMS, 1938 (page 29)

³ *Ibid* (page 34)

Other Sources:

History of Second Fifty Years, The American Mathematical Society 1939-1988,
by Everett Pitcher, Providence, AMS, 1988
Council Minutes, August 7, 1991; March 19, 1992

Part 3. An Overview of AMS Members

One part of the planning effort is to thoroughly review the nature of the AMS membership through the various sources of information we have in our corporate database, which includes not only our specific membership records but other information on the members as AMS customers. The following figures and tables are some examples of the types of information the Steering Committee is assembling as it carries out this part of the planning effort. The final report will expand further on the types of information included in this interim report.

The AMS Bylaws state: "There shall be four classes of members, namely, ordinary, contributing, corporate, and institutional." In fact, individual members are divided into various categories according to the amount of dues they pay. Here is a brief description of the categories of individual members used in the rest of this section.

- **Ordinary members** – these individuals are located primarily in the U.S. and divide into three subcategories according to the level of dues they pay:
 - Ordinary High members* are those ordinary members whose annual salary exceeds a certain amount set by the Council, with approval of the BT, known as the *high/low dues cutoff*. For 2004 the cutoff is \$80,000 and the dues amount for Ordinary High is \$148. For reporting purposes, the small number of Contributing members, approximately 75 the past few years, are folded in with this category.
 - Ordinary Low members* are those ordinary members whose annual salary is below the high/low dues cutoff. Their dues amount is set at three-fourths of Ordinary High dues, \$111 for 2004.
 - Ordinary Entry members* are members who are in their first five years of ordinary membership in the AMS. They pay dues equal to one-half of Ordinary Low dues, \$55 for 2004. This subcategory of ordinary members was introduced with the 1999 membership year.
- **Reciprocity members** – these individuals are members of mathematical societies in other countries with which the AMS maintains agreements providing for dues discounts to each other's members. Reciprocity members pay one-half the Ordinary High dues amount, \$74 for 2004. Most of the reciprocity members are located in western Europe, Australia and Japan.
- **Category S members** – these individuals live in developing countries and pay dues of \$16. Many of these individuals pay for their dues using their credits for reviewing for *Mathematical Reviews*.
- **Life & Emeritus members** – *Life members* are former ordinary members who have been members for at least twenty years, have passed age 62, and have made a one-time payment of dues equal to five times Ordinary High dues. Life membership is also available to reciprocity members under the same conditions, with dues equal to five times reciprocity dues. *Emeritus members* are former ordinary members who have been members for at least twenty years and have retired from active service on account of age or on account of long-term disability.

- **Nominee & Student** – *Nominee members* are primarily graduate students in mathematics departments that hold institutional membership in the AMS. The membership is free to the individual as a benefit of the institutional membership paid by the department. *Student members* are students of any level who pay dues of \$35 per year.

The tables and figures that follow summarize and display much information about AMS members. Preceding the tables are some observations and insights about this information.

- Total member counts increased steadily and significantly between 1987 and 2002. Within this overall increase in members, the core Ordinary members have remained stable, staying above 10,000 and below 11,000 during most of this period.
- The pattern in year-to-year retention of members has been remarkably stable between 1996 and 2002. Among the ordinary members, the retention rate is highest for Ordinary High members (95%) and lowest for Ordinary Entry (80%)
- The AMS Ordinary membership has aged considerably since 1987, with its median age rising from 44 in 1987 to 49 in 2002. This aging pattern follows closely that of the mathematics faculty at four-year colleges.
- A surprisingly large number of Ordinary Entry members do not hold a doctoral degree, one-third of all the 2002 Ord E members who reported their degree status to us.
- Of the total AMS membership in 2002, 30% lived outside North American (U.S, Canada and Mexico). If one excludes the Nominee members from the equation, 39% of the remaining members lived outside North America.
- Of those Ordinary E members in their last year of eligibility for Ord E status in 2002 (295), 73% had renewed into Ord L or Ord H status as of late March of 2003.
- The offer of Ordinary E membership has induced a significant number of older mathematicians to (re-)try membership in the AMS.

Figure 1: Trends in AMS Membership Counts, 1987 through 2002

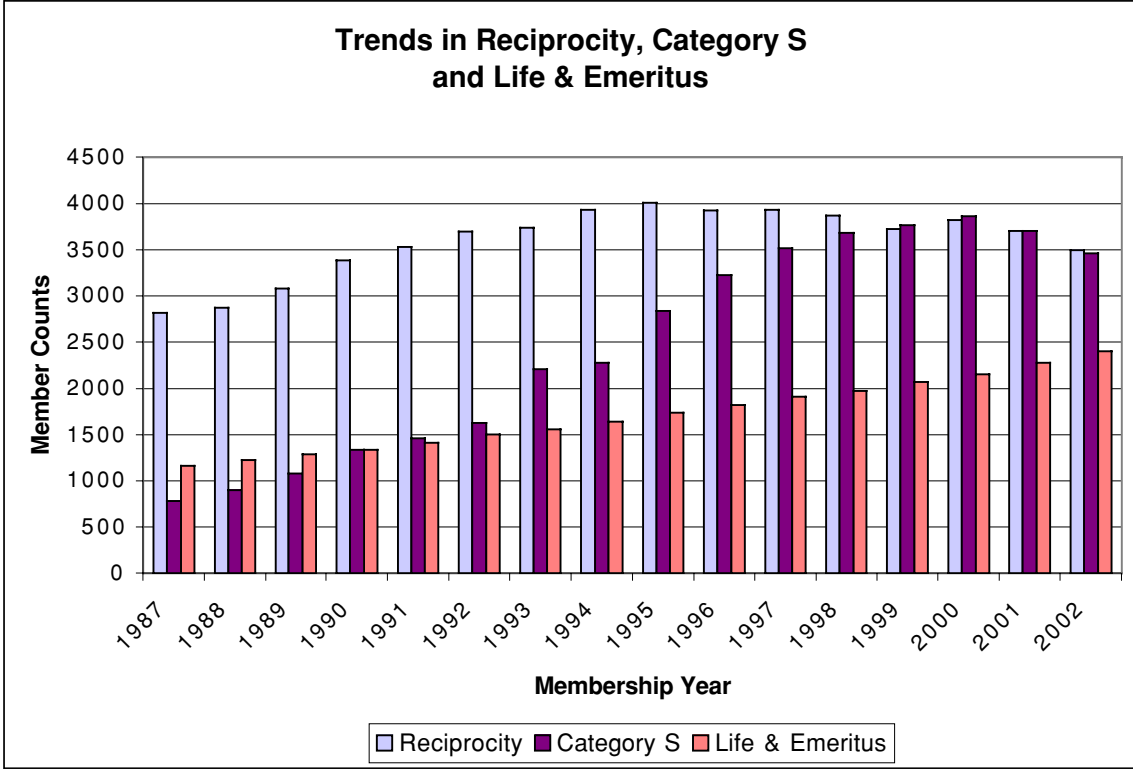
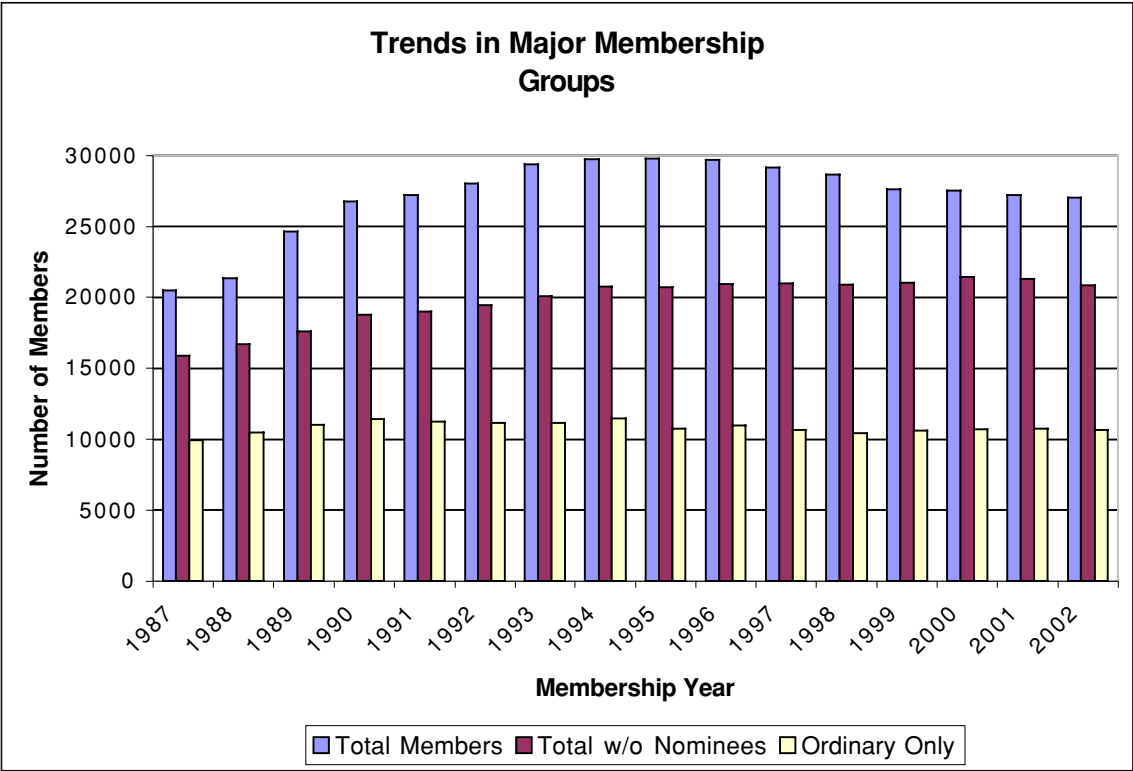


Figure 2: Relative Sizes of Member types, 1987, 2002

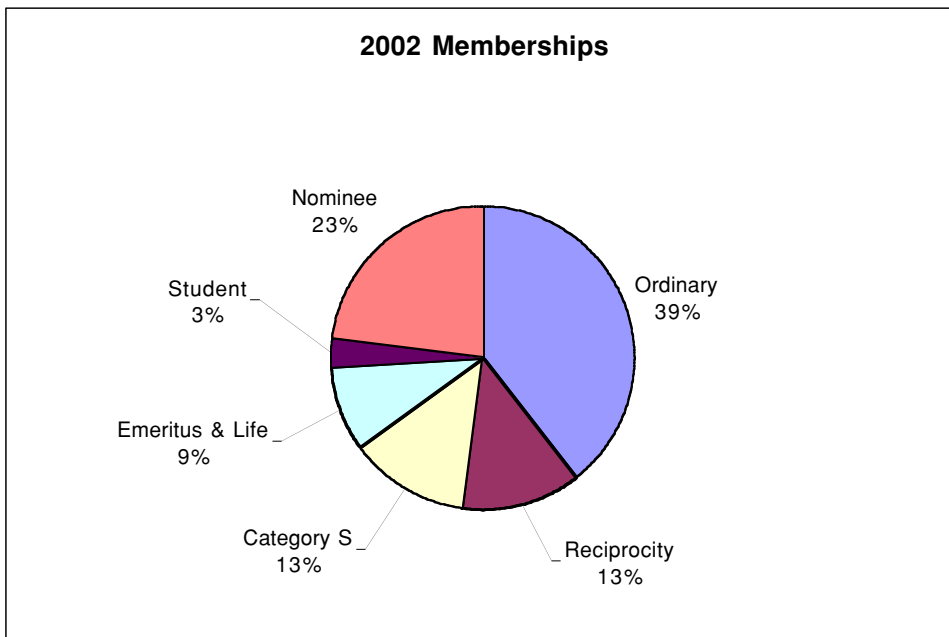
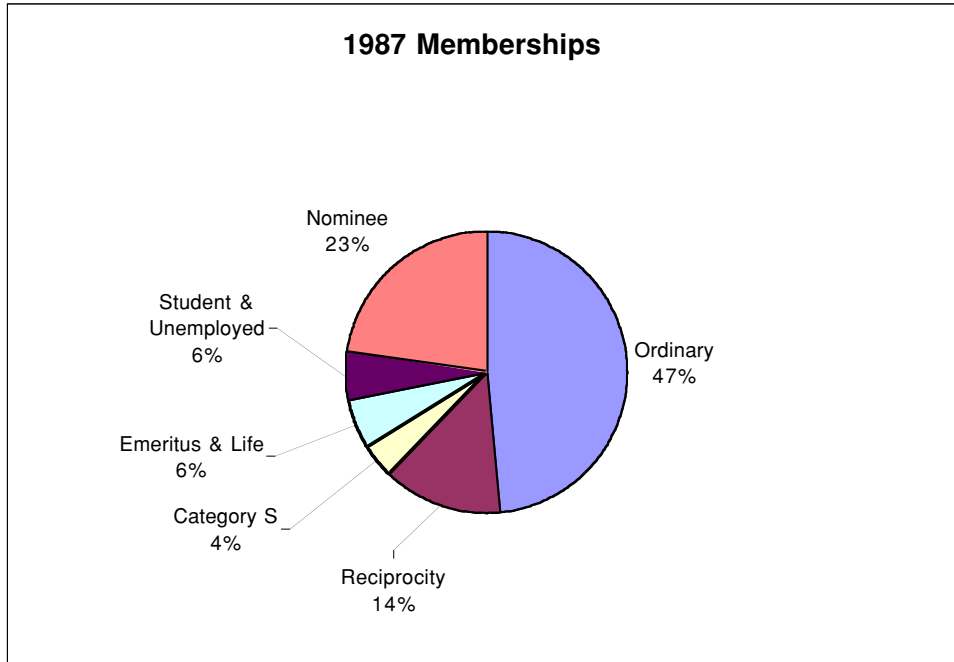


Table 1: Highlights of Member Retention

The column "1996 to 1997" contains information on the membership status in 1997 of individuals who were members in 1996, and similarly for the other columns.

	1996 to 1997	1997 to 1998	1998 to 1999	1999 to 2000	2000 to 2001	2001 to 2002
Proportion of all members who:						
• Continued their membership type	80 %	82 %	80 %	81 %	80 %	80 %
• Moved to another membership type	4 %	2 %	4 %	5 %	5 %	5 %
• Dropped their membership	16 %	16 %	15 %	15 %	15 %	15 %
Proportion of all members <i>except students and nominees</i> who:						
• Continued their membership type	87 %	88 %	87 %	87 %	86 %	86 %
• Moved to another membership type	3 %	3 %	4 %	5 %	5 %	5 %
• Dropped their membership	9 %	9 %	9 %	8 %	9 %	10 %
Proportion of <i>ordinary high, low, & entry</i> members combined who:						
• Continued their membership type	84 %	85 %	83 %	82 %	81 %	83 %
• Moved to another membership type	5 %	4 %	7 %	8 %	8 %	7 %
• Dropped their membership	11 %	11 %	10 %	10 %	11 %	11 %
Proportion of all <i>ordinary high</i> members who:						
• Continued their membership type	91 %	91 %	86 %	86 %	84 %	89 %
• Moved to another membership type	4 %	3 %	9 %	10 %	11 %	6 %
• Dropped their membership	6 %	6 %	5 %	4 %	5 %	5 %
Proportion of all <i>ordinary low and ordinary entry</i> members who:						
• Continued their membership type	79 %	80 %	81 %	79 %	80 %	80 %
• Moved to another membership type	6 %	5 %	6 %	8 %	7 %	7 %
• Dropped their membership	16 %	15 %	14 %	13 %	13 %	13 %
Proportion of all <i>ordinary entry</i> members who:						
• Continued their membership type			74 %	70%	70%	71%
• Moved to another membership type			7 %	13 %	12 %	10 %
• Dropped their membership			20 %	17 %	18 %	19 %
Proportion of all <i>student/nominee</i> members who:						
• Continued their membership types	65 %	67 %	66 %	65%	65%	63%
• Moved to another membership type	4 %	5 %	4 %	5 %	5 %	4 %
• Dropped their membership	30 %	29 %	30 %	31 %	30 %	33 %

Figure 3 Membership in AMS, MAA and SIAM

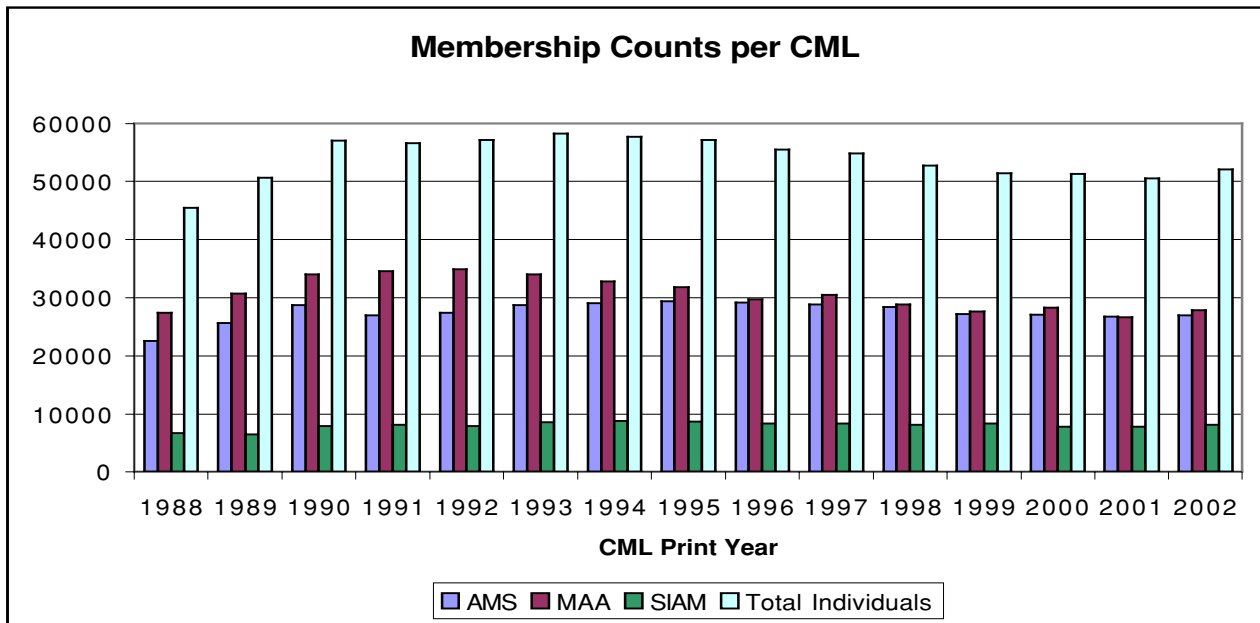


Table 2: AMS 2002 Ordinary Members with membership in MAA or SIAM

	Total Members	% MAA Members	% SIAM Members
Ordinary Entry	3,149	33	10
Ordinary Low	4,750	48	12
Ordinary High	2,909	50	21
All Ordinary	10,808	44	14

Summary of Some Demographic Aspects of the AMS Membership.

Table 3: Median Age by Type of Membership, 1987 to 2002

	1987	1997	2002
All Ordinary Combined	44	49	49
Reciprocity	—	49	52
Category S	—	47	50

In 2002, the median age for Ordinary High, Low and Entry members was 57, 50 and 37 respectively.

Table 4: 2002 Ordinary Members by Highest Degree Held

	Bachelors	Masters	Doctoral	Unknown	Total
Ordinary E	10%	18%	58%	14%	3,149
Ordinary L	3%	9%	82%	6%	4,750
Ordinary H	1%	5%	89%	5%	2,909

Table 5: 2002 Ordinary Members by Gender

	Female	Male	Unreported	Total
Ordinary E	17%	69%	14%	3149
Ordinary L	15%	82%	3%	4750
Ordinary H	7%	92%	1%	2909

Table 6: Geographic Distribution of 2002 AMS Members

Region (Country with largest count)	Count	% of Total
U.S., Canada & Mexico (U.S. = 17,524)	18,854	70
Western Europe (Germany = 679)	3,392	13
East Asia (Japan = 668)	1,339	5
Eastern Europe (Poland = 268)	925	3
Former Soviet Union (Russia = 445)	648	2
Central & South America (Brazil = 269)	596	2
Southwest Asia & Middle East (Israel = 178)	432	2
South Asia (India = 298)	325	1
Australasia & Pacific (Australia = 200)	251	1
Africa (South Africa = 94)	201	<1
Southeast Asia (Malaysia = 32)	142	<1

A Membership Profile of the Faculty in the Doctoral Granting Mathematics Departments

The information reported here is based on a survey of mathematics departments initiated in January of 1999, following a pilot study conducted during fall 1998. The survey was undertaken as part of the work of the Presidential Task Force on Membership formed in 1998. The term *PhD-granting mathematics departments* refers to the 175 departments of mathematics which make up Groups I, II, and III of the Annual Survey. Table 7 presents a broad brush picture of the full-time faculty in this set of departments in the fall of 1998. The numbers presented are projections for the 175 departments based on the 53 departments that responded

to the survey out of a total sample of 65 departments, an 82 percent response rate.

Table 7

Membership Profile
Faculty in Group I, II, III Combined

Membership as a Percent of Faculty by Faculty Category and Society

Faculty Category	Society				Number in Category	Percent in Category
	% AMS	% MAA	% SIAM	% AMS, MAA or SIAM		
All Faculty	50	35	15	64	6,655	100%
Faculty in Public Institutions	51	36	13	64	5,103	77%
Faculty in Private Institutions	45	33	22	63	1,552	23%
Faculty 40 or younger	44	29	11	57	1,843	28%
Faculty over 40	53	38	17	69	4,812	72%
National Origin = US	52	43	15	68	4,233	64%
National Origin not = US	45	22	16	58	2,422	36%
Male Faculty	52	36	15	66	5,774	87%
Female Faculty	37	33	13	54	881	13%

The AMS membership proportions within faculty grouped by age and national origin were as follows.

40 and below, U.S. national origin	47%
40 and below, non-U.S. national origin	42%
Above 40, U.S. national origin	56%
Above 40, non-U.S. national origin	46%

Profile of the 2002 Ordinary E members.

The following information gives a more careful look at the Ordinary E members of the AMS. Further explorations of this very important group of generally young AMS members is planned for the next month. These data are based on a total of 3001 Ordinary E members as of June, 2002.

1. An individual is eligible for Ordinary E membership for the first five consecutive years of non-student membership. If one breaks down this 2002 Ordinary E cohort by their stage of Ordinary E eligibility (in 2002), one has the following:

Table 8: 2002 Ordinary Entry Members

	Number of Individuals	% of Total	% that did not renew in 2003
First year:	770	26	25
Second year:	767	26	16
Third year:	641	21	15
Fourth year	527	18	11
Fifth year	296	10	22
Total	3,001		

2. For this cohort of 2002 Ordinary E members, 740 had not been a member of any type in 2001 and another 223 were Nominee or Student members in 2001. If one breaks the 740 non-members down by their stage of Ordinary E eligibility in 2002, one has the following:

First year: 552
Second year: 142
Third year: 12
Fourth year 17
Fifth year 17

3. The following breaks down this 2002 Ordinary E cohort by how long they had held their PhD as of 2002, for the 1800 members who reported both holding the PhD and the year of receipt of the PhD.

0 to 5 years	1,037
6 to 10 years	334
11-15 years	140
16 to 20 years	89
more than 20 years	200

Potential Market for a new “Retired Members Category”

To be eligible for Emeritus Membership, one must be retired on account of age or long-term disability and have been a member for at least 20 years. The following table shows the potential size of the market for a membership category for those who fail to qualify for Emeritus because they have not previously been a member for twenty or more years.

Table 9: Members Age 65 and older, by Years Since Joining, and Membership Type

Years Since First Joining	Membership Type			Row Total
	Ordinary Low	Ordinary High	Reciprocity	
Less than 15 years	107	32	74	213
Between 15 and 19 years	37	18	28	83
Subtotal	144	50	102	296
20 or more years	272	383	188	843

Potential New Member Pool from New Doctoral Recipients

Table 10

U.S. Employed Doctoral Recipients by Degree-granting Department, with Type of Employer

	Class of 1999-2000	Class of 2000-2001	Class of 2001-2002
Degree Received from Doctoral Math Dept. and Taking Employment in Doctoral Math Dept.	200	197	211
Taking Employment in Masters or Bachelors Math Dept.	166	161	128
Taking U.S. Employment other than above	206	199	161
Degree Received from Applied Math Dept.	48	57	58
Degree Received from Statistics Dept.	236	204	174
Total U.S. Employed	856	818	732
Total Degrees Awarded	1127	1065	960

We conjecture that the first row of the table above has the highest proportion of AMS members, those individuals that receive their doctorate from a mathematics department and begin their careers in a doctoral math department. Furthermore, we conjecture that the proportions decrease as one moves down the rows. This conjecture is being checked carefully for the class of 2000-2001.

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Part 4. An Investigation of Other Societies

In March/April 2003, a survey effort was conducted to gather membership information and ideas from 14 other professional societies. The 14 societies were chosen based on similarities to the AMS in size, operations or scientific area.

METHODOLOGY

A web investigation was conducted to gather preliminary information about membership and the membership staff for 15 societies. During this initial phase, one society was dropped from the list because its membership operations were too dissimilar to the AMS (membership was combined with professional licensing).

An appropriate staff member at each society was contacted by phone and arrangements were made to send a set of questions via email for preliminary data collection, to be followed by a telephone interview.

The email questions concerned individual membership numbers and types, and estimates of the percentage of membership employed in academia, or foreign. Also, information on dues amounts for U.S. based members, students, and foreign members was collected. There was also a question about the society's total revenue, and the percentage of revenue provided by dues payments.

Over the phone, each society was asked about student memberships, foreign memberships, recent membership increases or decreases, special member retention efforts, members-only services, trends in gender, age, or geography of members, recent membership surveys, and "sponsored" or subsidized membership programs.

The following are summaries of the information from each organization. A table of membership data from these societies can be also found at the end of this section.

American Physical Society.

APS membership totals approximately 42,000. Their highest level was reported as over 43,000 in 1993, down to just under 40,000 in 1997, and fluctuating between 41,000 and 43,000 since then.

In 2000, APS hired a telemarketing company to phone members who had failed to renew that year. The calls by the company resulted in a 20% renewal rate, either on the spot or through follow up action from APS customer service. A survey of domestic members in 1996 showed that their communications with members were very weak. An expanded communications program drew an improved rating in a 2001 online survey of members. APS plans future small, targeted surveys to be conducted electronically.

APS believes that members find its insurance offerings to be valuable. They have recently added GEICO auto insurance (with an 8% discount in Maryland; varies by state) to their list of insurance programs. They are also considering a new “articles bundled subscription” for members. For \$50 per year, members can select 20 articles from the various APS journals.

American Geophysical Union

The AGU has kept its dues at \$20 for many years. (They also encourage additional contributions.) They currently have about 30,000 regular members, 6,000 students and 1,500 life members. AGU is concerned that the average age of their regular members has increased in the last decade (currently, 44). They are trying to attract more student members (the student dues are \$7.) Another concern is that women account for only 17% of membership. Overall their total numbers have been steady for the last 5 years.

Their foreign membership, offered at the same low \$20 rate, is increasing faster than domestic. It is currently 31% of all members. They also offer a special sponsored dues program for those unable to pay.

Their most recent member retention effort has been to improve customer service to all members. The AGU believes that excellent membership practices are crucial in starting a more professional, successful member retention effort.

One very popular membership benefit, the weekly member newsletter Eos, contains the job ads placed with the society. AGU limits electronic access to Eos, and therefore the job ads, to members only.

It is noteworthy that AGU welcomes hobbyists (those who “like rocks”), and their very low standard dues rate helps them attract a wide variety of members.

American Chemical Society

The 175 year old ACS is a very large professional society, representing 161,000 members plus approximately 17,000 undergraduate students. The ACS believes that it has the overwhelming majority of professional chemists as members. One area that they look to for growth is the “allied professional” (non-chemistry degree). Of course, retention is always important.

For the last five years, a well-funded membership campaign has raised membership totals by 10,000 members. Although only about 40% of members are employed in academia, the focus of the mission and membership efforts is mainly academic. ACS has made a conscious decision not to market widely overseas, therefore less than 9% of members are from outside the U.S. The reason for this is that the ACS is afraid that it could be viewed as trying to supplant societies in other nations. Instead it tries to work cooperatively with other societies.

The ACS is also concerned that its membership is aging, and that the ACS is viewed in the community as primarily white, male and at the PhD level. To dispel these concerns, the new membership effort focused on “branding” (making a clear presentation of what the ACS has to offer) and promoting awareness of all programs, services and publications. It also succeeded in improving the diversity of the membership.

The membership manager worries that the ACS gives away many materials (online, and to teachers), which makes it more difficult to market membership, since potential members are less likely to perceive the value of membership.

Recently the ACS has made an effort to improve existing programs -- particularly those used by younger members. They have not designed any new members-only benefits. They cite their most important member services as the journals, career services, and national meetings.

One interesting aspect of ACS’s retention program is their unwillingness to use email for dues notices. The ACS does not use email much for any purpose. To remind members to use an electronic service, they tend to send postcards.

Institute for Operations Research and the Management Sciences (INFORMS)

INFORMS has approximately 10,000 members; about half are in academia. Approximately 17% of their annual revenue comes from dues. A regular member pays \$112 annually, plus additional fees for sections or chapters if desired. Students and retirees pay \$28 in dues.

Recent membership surveys have resulted in the formation of two committees: the Student Awareness Committee and the Public Awareness Committee. The surveys also resulted in a member benefit: online access to INFORMS journals to which a member subscribes (this benefit applies to all members since a subscription to one journal of choice is included in dues.) Also, the society decided to offer more education resources on the web. INFORMS’ current interest, and most recent success, is in attracting more student members.

American Society for Microbiology

ASM has approximately 43,000 members, with 29% of those members living outside the U.S. Overall, 55% are employed in academia. Regular members pay \$49 per year, students pay \$15, and there is a two-year transitional rate of \$29 between those two categories. Their membership numbers are reported as holding steady in the last five years.

ASM has recently adopted a more proactive approach to member retention. They have developed a member welcome kit, sent to all new and renewing members. The kit includes a wallet membership card with relevant phone numbers for “all possible member concerns.” Feedback on this initiative

has been very positive. Their newest members-only service is an online searchable database for society abstracts and journals. Free registration in career placement services is also included in membership. ASM is also trying to address a concern staff have that members have not aware of many important features of the web site.

ASM reports that international membership is growing. Membership is free to those in 30 U.N.- designated countries. They also have a dues sponsorship program applicable in other countries.

Society for Industrial and Applied Mathematics.

SIAM has just over 8,000 members. Regular dues are \$108, students pay \$23 (unless they qualify for the new "Graduate Comp" free membership through their institution) and there is a \$54 "postgraduate" transitional rate for those just out of school. Except for a \$25 outreach rate to developing countries instituted in 2000, SIAM offers no special rates for foreign members, yet approximately 31% of their members are from outside the U.S. About 10% of SIAM revenues come from dues.

Currently, SIAM's membership totals are rising, after a decline from 1998 to 2001. The new Complimentary Graduate Student category is responsible for the increase since then. Looking at regular memberships only, levels have declined by between 1% and 4% in each of the years 1998-2002 (2003 totals are not available yet.)

SIAM has most recently added a few new Activity Groups (AG). The extra \$10 membership fee for each group can be recouped by the member when registering for an AG conference. SIAM has recently developed a "web portal" for use by one Activity Group, Dynamical Systems. The web site will hold information of interest to the AG. More such sites may be developed for other Activity Groups.

During the year 2000, SIAM focused on membership as a major component of a strategic planning effort. A consultant conducted surveys of the following groups: current members, former members, and individuals who had never been a member. They found the results very helpful but declined to offer further specifics. One result, however, was the message that SIAM needed to do much more to cultivate a connection with math students. Two actions taken in connection with this concern were the new graduate comp memberships and increased support for student chapters by the national office.

The new "Outreach Members" category offers dues of \$25 to individuals in qualifying developing countries. These members receive SIAM News, but receive e-access only to SIAM Review. They may not receive member rates for other subscriptions.

American Astronomical Society

AAS has about 6,500 individual members. Full members must hold a PhD or other evidence of a research career, and be nominated by two full members. Other categories have educational requirements in the area of astronomy. Hobbyists and high school students are encouraged to join other societies. This is in contrast, for instance, to the American Geophysical Union which welcomes hobbyists. The Full member dues rate is \$110.

Currently overall membership levels are stable. First time student members get two years for the price of one (\$37). The AAS holds graduate and undergraduate student receptions at their national meetings, however, they make no special efforts to recruit student members.

In terms of retention, the only special effort made recently was to have the membership manager personally phone members who had failed to renew. The result of the phone calls was a 30-40% renewal rate. The last resort is a letter, signed by the AAS treasurer, "wishing you would come back."

Like other societies, AAS is looking to create new members-only benefits.

Mathematical Association of America

The MAA had about 25,400 members in January, 2003. About 6% of those members live outside the U.S. Regular members pay either \$149 per year, or, depending on income, a discounted rate of \$119. New members can join for \$79, and their rate will be gradually stepped up over the next three years -- a recent innovation which the MAA believes has been well received. Foreign members pay the same rates. MAA reports an increase in membership over the last 4 years. They attribute earlier declines to a lack of new member recruitment. MAA also believes that mathematicians perceive the value of MAA more as their careers advance, hence tend to join later.

In 1999, MAA conducted a membership survey using a consulting firm, Kerr and Downing of Tallahassee, Florida. A result of this effort was the creation of Special Interest Groups, or SIGMAA's, which operate independently but require MAA membership. The MAA has 29 regional sections and over 300 student chapters.

In 2001, the median age of MAA members was 56.5.

Association for Women in Mathematics

AWM has approximately 4,100 members. Members pay \$50; new members pay \$30. The student rate is \$15 (except if their school is an AWM institutional member, which covers free student memberships.) Approximately half of all members are students. Only about 3% of members live outside the U.S. AWM membership has been fairly stable for the last 5 years, with a slight downturn attributed to a lack of new member recruitment, and to the economy.

The AWM offers one main member benefit, the Newsletter. Many grant-supported AWM programs cannot, of course, be restricted to members only. So many people choose membership for altruistic reasons -- to support the association and its programs generally.

Ecological Society of America

The ESA has almost 8,000 members, and over 60% of them work in academia. Regular dues vary, based on income, from \$50-\$95. Students (all levels) pay \$25 and account for about 20% of membership. About 10% of society revenues come from dues. Approximately 17% of members live outside the U.S.

ESA reports that membership levels have been steady in the last five years. While foreign members are seen as "important", no special effort is made to recruit them. They pay the same dues as U.S. members, plus an additional postage fee, which is likely to increase in the near future.

ESA's newest membership offering is a free member magazine, launched in 2003, "Frontiers in Ecology and the Environment," published 10 times per year. The ESA received private foundation funding to cover the cost of producing and mailing the magazine for the first three years. The magazine includes some general news in the field and feature articles (similar to Notices feature articles, but peer-reviewed.) This differs from the other ESA journals which are all research, and available to members by discounted subscription. The "Frontiers" magazine replaced the ESA's printed Bulletin, which is now an online-only publication accessible in the members-only area of the ESA website. The Bulletin focuses on Society news, members, prizes, meetings, etc.

The members-only area of the website also contains the member directory, job announcements, and the electronic version of "Frontiers". The membership director asserts that access to the on-line membership directory is highly prized by members. Members can access older ESA journals through a member arrangement with JSTOR (a journal-storage website).

No special effort is made to recruit members from developing countries, although the special dues rate of \$45 does appear on the membership application. Foreign members from non-developing countries pay normal dues plus a postage fee. ESA recently received a Mellon grant to encourage minority students to pursue ecology, and also started an Education department.

American Statistical Association

"Amstat" has nearly 17,000 members, who pay \$85 for full membership, or less for students or retired members. Recently, a major promotion for student memberships increased student numbers from about 1500 to about 2,500. The promotion involved a special dues offer of \$10 for the first year, followed in subsequent years by the normal student rate of \$25. Promotional materials were

sent to department chairs twice per year, sometimes including a \$100 voucher to cover expenses of a student "get-together". This recruitment method was successful for Amstat. Membership levels have been fairly consistent over the last five years, with a very recent increase due to the new student campaign. Amstat has a "chapter" arrangement as well as a number of topical "sections". As is usually the case, each chapter is a financially and legally separate entity.

Amstat's most recent member retention effort has been to streamline their renewal process. They also have added a "telemarketing" component, calling members who have been dropped and obtaining either a renewal, or the reason why the member chooses not to re-join. The most common reasons are cost, a change of field, retirement, or a feeling that Amstat materials are "over the head" of the member.

Portions of the Amstat web site are members-only, including an advanced searching capability of the member directory. Amstat also has an arrangement with JSTOR to give members access to their journals published more than five years ago.

Amstat has recently begun compiling demographic data on members and has discovered that the core of members are 30-50 years old (not older, as they had assumed).

About 12% of Amstat members live outside of the U.S. Amstat offers a special \$24 rate for World Bank list countries.

American Sociological Association

The ASA has between 12,000 and 13,000 members, about 31% of whom are students (who pay \$15). About 80% of members are employed in academia. Dues for regular members range from \$20 to \$155, depending on a sliding scale based on income. Dues account for about 18.5% of ASA's revenues.

ASA has recently instituted a system to encourage more student memberships. Each fall, they contact departments, asking them to sign up at least five student members, and cover \$5 of their dues, each. ASA also pays \$5 each and the student pays the remaining \$5. The student must also subscribe to one on-line journal at a rate of \$20. ASA reports that about 80% of students go on to become full members.

While membership was at a low point five years ago, they are now showing two or three years of small increases. Recently, ASA has tried discounting dues to attract new members. They have instituted a "loyalty" or recognition program to thank members at various milestone anniversaries by awarding them plaques, certificates or other giveaways at the annual meeting.

ASA reports that their 43 topical special interest groups are very popular among members. A recent member survey prompted ASA to form even more of

them. Another benefit that members utilize is the ASA-provided access to back journals on JSTOR.

Modern Language Association

The MLA has just under 30,000 members. Dues are set on a sliding scale based on income, which includes the graduate student rate, a first-year rate, and 12 income brackets. Dues account for approximately 11% of MLA revenues. About 10% of MLA members live outside the U.S. MLA offers a \$20 rate for graduate students, but there are no special rates for students at any level below graduate school.

Membership levels have been fairly stable for the last five years, fluctuating between 28,000 and 30,000. The most recent member retention efforts by MLA include the addition of the three highest dues tiers, and some improvements in design of the web site. The online membership directory and program for the annual meeting have members-only access. Calls for papers are also in the members-only section of the web site.

American Historical Association

The AHA has approximately 14,000 individual members. Approximately 7% of the members live outside the U.S. AHA reports that individual membership numbers are increasing in recent years, despite recent increases in dues (which range from \$40 - \$135 depending on income). Popular benefits include health insurance plans and JSTOR.

Some traditional member benefits have been maintained as members-only on the web site. In particular, the two main journals that members receive are on the web site also, however, member login is needed to access full articles (brief descriptions only are publicly posted).

AHA offers "joint" memberships with two K-12 organizations: the Organization of History Teachers, and the Society of History Educators. For one fee (\$58), these members receive some, but not all, of the member publications of each society. The memberships (according to the web site) support popular programs like National History Day, and a special lounge at the annual AHA meeting.

For individuals whose primary identification is in a field other than history, "Associate" membership is available for \$50.

Recently, the AHA has instituted a "Member Services Program" which offers several groups of extra benefits bundled under fixed prices. These benefits include the paper membership directory, some pamphlet series, and a guide to prizes and grants.

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	AMS	SIAM	INFORMS	ASMicro	ASocA	AAstroS	MAA
Total Members	28,047	8,676	10,558	43,000	12,666	6,267	25,400
Number (or % to total) of Student Members	8,664 (30%) 8,015 nominee 659 students	2,255 (26%) 1,475 Grad (comp) 319 Under (comp) 461 paying students	12%	9% Note: approx 13% of student members become full members	3,981 (31.4%)	902 (14%)	18%
Number (or % to total) of Members not residing in U.S.	37%	31% (estimate)	24%	29%	1,126 (8.9%)	861 (14%)	6%
Number (or % to total) of Members employed in Academia	Not available	67% (estimate)	47%	55%	80%	Not available	43%
Regular Member Dues (2003)	\$108 - <\$75k \$144 - >\$75k \$54 (first 5 years)	\$108 \$54 post grads	\$112 \$28 retired	\$49 \$29 transition (first 2 years)	\$20 - < \$20k \$21 - \$20k-\$29k \$56 - \$30k-\$39k \$100 - \$40k-\$44.9k \$139 - \$55k-\$69.9k \$155 - >70k	\$110 full \$55 emeritus	\$119 - <\$52k \$149 - >\$52k \$79 (first 3 years)
Student Member Dues	\$36 Nominee free	\$23	\$28 student	\$15	\$15 \$37 emeritus	\$37	\$20 undergrads
Foreign-based Member Dues	\$72 Reciprocity \$16 dev country	Same as U.S. regular or post grad	Same as regular	Same Free to 30 UN countries	Same as U.S. +\$20 per journal for postage	Same as U.S.	Same as U.S. based
Total Revenue	\$21.5 million (2002)	\$7.33 million (2002)	\$6 million (2001)	Not available	\$4.4 million	\$8.8 million	\$7 million
Membership Dues as % to total revenue	7%	10.1%	17%	Not available	18.5%	7%	28%

	EcolSA	AWM	AMSTAT	AHista	ModLangA	AGeoU	APhysS	ACChemS
Total Members	7,834	4,100	16,563	14,048 individual 3,580 institutional	29,572	37,428	42,830	161,000
Number (or % to total) of Student Members	20%	51%	2,315 (14%)	2,827 (20%)	6,598 (22.3%)	15.2%	17%	14,000 Grad (8.7%) 17,000 undergrad (not counted in the 161,000 total)
Number (or % to total) of Members not residing in U.S.	17%	3%	12%	930 (6.6%)	3,161 (10.7%)	3,190 (8.5%)	22%	18,500 (11.5%)
Number (or % to total) of Members employed in Academia	58%	80-85%	45% approx	9,897 4,151 unknown	Not available "A high percentage"	No answer	50% excluding students	40%
Regular Member Dues	\$50 - <\$40k \$75 - \$40k-60k \$95 - >\$60k	\$50 regular \$30 new	\$85 Full \$25 Retired	\$40 - <\$20k \$74 - >\$20k \$85 - >\$35k \$100 - >\$45k \$112 - >\$55k \$135 - >\$70k \$170 contributing	\$25 - \$15k \$40 - \$15k-\$20k \$50 - \$20k-\$30k \$65 - \$30k-\$40k \$75 - 440k-\$50k \$85 - \$50k-\$60k \$95 - \$60k-\$70k \$105 - \$70k-\$80k \$125 - \$80k-100k \$145 - \$100-120k \$165 - \$120-140k \$175 - >\$140k \$20	\$20	\$102 \$51 Junior (first three years only)	\$116
Student Member Dues	\$25	\$15	\$10 first year \$25 thereafter	\$35	\$20	\$7	\$26	\$58 grad student \$19 undergrad
Foreign-based Member Dues	Same as regular plus extra for postage	Same \$15 dev country	Same as full	Same as regular plus \$20 for postage	Same as U.S.	Same	Same	Same as full PLUS additional postage for weekly journal
Total Revenue	\$4.62 million	Not given	\$6.15 million	Not available	\$13 million (2002)	\$27 million	\$36 million	\$300 million
Membership Dues as % to total revenue	10%	Not given	20%	30%	11.3%	6%	8.3%	Negligible

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Part 5. Best Practices in Membership

An investigation has been conducted to review standard practices in association membership, as well as methods used by societies similar to the AMS. Sources consulted included volumes recently published by the American Society of Association Executives concerning membership practices and strategies. Staff consulted with other society representatives during the annual meeting of the Council of Engineering and Scientific Society Executives, held in Minneapolis, Minnesota in July, 2003. Approximately 25 presentations were made in the area of membership. Also, results of a brief survey of membership practices were distributed after the conference.

Good membership practices require thoughtful attention to every area of membership development: collecting and analyzing data about members, developing and testing new member recruitment campaigns, and, most importantly, proper efforts to retain current members. Among scientific societies, there are many shared concerns and problems, and much to be learned from methods which have already been tested in other settings. What follows is a review of common membership practices.

Know as much as possible about members

The three most important things to know about members are why they join, why they drop membership, and their demographic information.

Why do they join?

It's not uncommon to ask about the reason for joining on the membership application form. That's the best time to obtain it, because after joining, reasons to remain as a member are often different. Members tend to join because they believe, in some way, that it will help them in their chosen career. They are looking for benefits, services, discounts, and perhaps for intangibles like stature or good citizenship. Knowing the variety of reasons why members join is crucial to the work of promoting membership and properly targeting campaigns.

Why do they lapse?

Probably no piece of information is as valuable as knowing why members drop their membership. Knowing what the complaints and gaps are is crucial to any organization, and yet most complainers never contact the society with their criticism, although they readily speak up about it to colleagues. For this reason, more and more professional societies are conducting systematic telephone calls to members who have just dropped membership. Most often, these calls are conducted by outside vendors, following the information and directions

provided by the society. The result of the “exit survey” call is useful – either a renewal, or a reason for dropping. The American Physical Society reported that when they tried this method in 2000, they had a 20% rejoin rate. The American Astronomical Society reported a 30-40% rejoin rate when they had their membership manager test the method. The American Phytopathology Society was able to get volunteers from the same scientific sub-area to make the phone calls. The American Nuclear Society, the American Chemical Society, the American Statistical Association and many others use the telephone method every year. When asked if they receive complaints from members about the telephone calls, IEEE reported that members are happy to hear from the staff, the American Society of Mechanical Engineers noted that only a small number complain, and the Instrumentation, Systems and Automation Society frankly admitted that the individuals had already quit anyway, so if the call bothered them the society had little to lose.

How much do we know about members now?

The least cumbersome method of collecting membership data is to build and analyze demographic information on each member, beginning with the membership application. Such data typically includes date of birth, gender, degrees, job titles, and type of employer. Length of membership and changes in membership are noted internally. Careful analysis of dropped members creates a clearer picture of which members are most likely to drop. “Database modeling” can help staff to see how those who lapse are different from those who stayed. Characteristics that lapsed members have in common are considered to be negative predictors. Spotting significant trends, over time, can point to the need for new communications or programs. It can help staff to target retention efforts to those most likely to lapse.

Other methods of learning more about member needs include small, targeted e-surveys using web tools like Zoomerang, focus groups, print surveys, and talking to them whenever possible.

Recruit new members effectively

Who should be a member?

The most crucial decisions that societies make about membership have to do with determining who is welcome to be a member. Most societies can trace back in their histories sets of “admission” criteria that served to limit membership. For instance, even today the American Astronomical Society requires a research career and two member signatures to become a “Full” member. At the other extreme, the American Geophysical Union welcomes anyone into membership gladly, and keeps its dues very low (\$20 per year)

which also helps to invite a wide range of members. Most societies fall somewhere in between these two levels of exclusivity. The old mechanisms of co-signing membership applications and charging initiation fees have mostly died away. However, many hold onto degree requirements and a regular dues level of over \$100 (although dues are often salary-based).

It's not unusual for scientific societies to suffer from an image of being white, male and for those with the highest education levels only. Each society makes efforts to change these perceptions.

As a result of numerous factors in today's changing world, membership levels in many societies have been falling at some point in the last decade. To find new members, societies have had to do some serious thinking about where to find untapped pools of potential members.

Signing up the student members

In almost all cases (for instance SIAM, American Astronomical Society, Ecological Society of America, American Statistical Association, Modern Language Association) the common-sense answer has appeared to lie in the students, particularly the graduate students. Creating new, easy methods for students to join has helped to shore up dwindling membership totals. Offering new products and services to students has often been a part of the effort. And, gathering students into membership appears to bode well for the future, since these students will someday be the regular members.

The young professionals

After the students, finding ways to appeal to young professionals (those in their first few years out of school) has been the second recruitment plan of choice, and, usually, a more difficult one. Many societies carefully track individuals in the student category to be sure they are effectively invited into regular membership. A frequently used method is to track the expected finish date, and write to the student member just before they leave campus, promising a gift and, in that way, obtaining the post-graduation address. With the gift, of course, will come an invitation to membership. Some societies, like the AMS, offer a lower initial regular dues level for the first years of paying membership.

Young professionals, on average, are harder to sell through normal advertising channels. They want products that are customized to their own needs (not one-size-fits-all), they want to be in a diverse environment, and they prefer electronic products to traditional paper ones. And naturally, they will respond best to materials that show young people, like themselves.

Two societies, the American Phytopathological Society and the American Physical Society, have had success with forming "young professionals" committees which have led to activities at the meetings, web pages, listservs and

enhanced feedback about the needs of this group. This type of volunteer participation by young members is very important.

The dues

Setting dues is the most effective method of welcoming or not welcoming potential members, by group. In almost all societies, the highest dues are paid by "regular" members. These are the individuals who, while extremely important to the society, can be counted on to belong. One effort to ensure "fairness" to these members is scaling the regular dues based on professional income. This practice is rather widespread. Other groups are split off into special categories and, in most cases, are charged a lower amount designed to attract as many as possible into membership. These groups include retirees, students, foreign members, new members, "associate" members from allied fields, and members holding joint memberships with other societies.

While setting dues causes anxiety among all societies, dues rates are only part of the formula needed to attract and keep members. Representing and serving the profession well, and making sure that the community understands the value of membership, will ultimately determine the membership levels far more directly than slight shifts in dues.

Foreign members

The idea of welcoming as many foreign members as possible is not universally endorsed by U.S. professional societies. Some worry about the increased costs of overseas mailings – and pass those costs on to the foreign members. Others are concerned that they do not want to replace societies in any other country. Many societies, like the AMS, charge professionals in developing countries much lower dues than for professionals in other foreign countries. In many cases, these developing country memberships are electronic only. Members are given access to protected areas of the web site containing the member publications; nothing is mailed. Others limit the benefits of these members; for instance, SIAM does not give them discounted subscriptions, and the Acoustical Society of America gives them no discounts at all. In many cases, societies set up the dues levels, but make no special promotional efforts to attract overseas members.

While the idea of encouraging some members to volunteer to fund "sponsored memberships" for professionals in developing countries is being implemented now in several societies, participation seems low. IEEE, the American Physical Society and the American Society for Microbiology all report that retention of such members after the temporary subsidy is unlikely. So while there may be important reasons to conduct such programs, membership development is not one of them. Other ideas to help individuals from developing countries include the Society of Automotive Engineers' "teams" of 10

members who pay, collectively, \$100 per year and receive one set of member publications (this program is popular in Russia). And the American Oil Chemists Society allows dues for individuals from certain countries to be waived, based on an email request.

Joint memberships

Another common practice in membership development is the arrangement of joint memberships with other societies. These commonly fall into two categories: same-profession societies that tend to offer joint memberships where one society is large and clearly the industry leader, and the other, much smaller societies are no real competition. "Allied profession" memberships are utilized where people work in one scientific field but have an educational background in a different scientific field. The "allied profession" memberships are like reciprocity memberships where a special price is available to those who belong to two particular societies.

The marketing plan

While professional societies may feel uncomfortable with the idea that they are "marketing" or selling memberships, membership recruitment does depend on a clear, targeted marketing campaign, adjusted annually. Many more individuals will sign up if they are asked. Without recruitment, the society can only wait for new members to approach on their own.

There are some recruitment campaign strategies which are successful for some societies, and unsuccessful for others. Member-get-a-member campaigns can be run in a variety of ways. The most basic is that a current member signs a prospective member's application at the time it is submitted, eventually gaining for him- or herself some type of reward or gift, depending on the number of new applications submitted. At the American Institute for Aeronautics and Astronautics, each such signature earns 10 "Referral Bucks" for society products. A more complex method is member referral. The Society of Petroleum Engineers held a contest in which members could nominate, over the internet, sets of five candidates for membership. Automatic emails would go the individuals listed. A logo gift was sent in appreciation for the referrals. The actual success rate in getting new members via this method was 12%. Younger people were most comfortable using this method. Other venues for encouraging new members to sign up include the society web site, meetings and conferences, and advertisement in society publications.

Direct mail solicitation is a very common tool for member recruitment. Mail campaigns contain expected elements such as a letter, a brochure, an application and a reply envelope. Variations from this can include an unusually shaped outer envelope with an inviting message, a short-cut approach where the

prospect is invited to apply for membership over the web, or a letter which varies depending on some characteristics of the recipient. The letter could be enclosed in a wrapped issue of a member publication, being given as a free sample. It's important to catch the reader's attention with the benefits of membership to them, even if some benefits are altruistic, rather than displaying a list of features, which will seem impersonal. The most fiscally prudent approach to mail marketing is to set a schedule based on past results and budget, and test each proposed variation from it.

The two key features of any mailing are the list and offer. The use of small, targeted mailing lists usually works best. Direct mail costs are typically high, since the average success rate is around 1%. Lowering those costs by shrinking the mailing list (down to the best prospects) is advisable. For instance, when mailing membership promotions to customers who have purchased books, one might choose only those with certain characteristics, such as multiple purchases, or purchases within the last six months.

The other key feature of a mailing is the offer. An offer is whatever is given beyond the actual membership, such as 15 months for the price of 12, a free gift upon joining, or a reduced dues amount. One easy way to test an offer is by splitting a list in half, sending one offer to one half, and another offer to the other half, and measuring the response rate of each group. The offer should compel the recipient to enroll now, and not put it off. Some societies send more than one piece to an individual during a typical campaign. By carefully testing and tracking the response to all promotional efforts, results should show improvement over time.

Retain existing members

Recognizing the costs and difficulties in bringing in new members, societies should focus most membership development efforts on retaining existing members. It's vital that members understand what the society offers them, what the society does for the profession, and, overall, the value of membership to their careers.

The crucial first year

Of all existing members, first year paying members are the most vulnerable. If they do not understand their benefits, and do not understand what the society does for the profession, they are most likely to lapse. Effective communication is vital in the first year. Typical communications include welcome packets, membership cards, and newsletters. Helping new members to become more involved in the society is a wise strategy. Volunteer opportunities will be welcomed by some members. Others will feel involved if they utilize a

discount or attend a meeting. At the very least, new members should receive frequent communications.

Member appreciation

One method for making members feel appreciated is the “member recognition” program which honors members, at certain anniversaries, with a card, or, later, a small gift. The member recognition program typically begins in year one, just before the first dues renewal, and continues through each of the early years and, later, on significant anniversaries like 10, 25 and 40 years. The object of a member recognition program is to encourage renewal.

Benefits

There are probably hundreds of reasons why a member may join and, later, renew. Those reasons are grouped under the term “benefits.” Benefits may be tangible, such as publications, insurance and discounts; professional, like services to the community in general; or emotional, like status or a feeling of benevolence. While it’s important to examine which benefits are valued by which types of members, to the extent possible, it’s also important to welcome all members and their varying needs. There is no right or wrong reason to want to belong.

Societies have, in the internet age, attempted to keep some tangible benefits available only to their members, even if the items have also been placed on the web. In that case, these web sections require a member to log in. Weekly or monthly member publications are either inaccessible to the public, or, more commonly, are available only as a table of contents. Other members-only benefits recently developed include special online searching tools for society publications, or for the membership directory. Many societies have an arrangement with JSTOR to offer back issues of journals to members.

Benefits of a personal nature such as insurance or car rental discounts are sometimes referred to as “Affinity Programs”. Given that these programs usually provide income to the society, and discounts to members, they are a useful addition to a membership package. They work best where the society has enough members to provide real bargaining power in negotiating contracts with vendors. Examples of such programs are health and long term care insurance, auto insurance, financial products such as 529 education savings plans and certificates of deposit, car rental discounts, credit cards with the society logo, and long distance phone cards. Virtually all of these benefits are available in the U.S. only.

Chapters and sections

Many societies meet the members' needs for information in their specific professional area by instituting "sections" on specific sub-areas. Section activities may include meetings, web pages, listservs, and mailings. MAA and SIAM have sections.

Additionally, most societies also operate locally in "chapters". Local chapters allow for valuable member volunteerism and thrive on grass-roots activity. The national organization typically collects extra dues for the chapter, and often the chapter conducts membership drives which help the national organization.

Customer service

While collecting dues each year from members may seem simple, customer service practices are a crucial part of a successful membership development effort. Dues notices are typically sent in an established sequence. Each notice requires a different letter, moving in tone from warm and grateful to cautionary and even urgent as the months go by. Additional promotions or flyers should be avoided since they distract from the purpose, which is renewal. As previously mentioned, the sequence sometimes includes a phone call if needed. Once established, nothing should change in the sequence without careful testing.

There are organizations, such as the American Chemical Society, who have resisted calls from members and leadership to send dues notices to members by email, if desired. They are concerned that the email may fail or be overlooked, resulting in fewer renewals.

In closing

Membership shapes the very existence of a professional society, determining its past and its future. Nothing is more central to every function of a society than the steady influx of members. Maintaining an effective membership development effort requires planning, testing and resources. Over time, good membership practices will be cost-effective since recruitment and retention efforts should be measured against results, and adjusted accordingly.

Part 6. Setting Annual Dues

This memo supports the conclusion that the Society should rely less on the current formula for recommending dues increases and rely more on applying key principles in considering the facts and circumstances each year when setting dues. The following is the text of the recommendation included in the recommendations section of the report.

Conclusion 11: The AMS should rely less on a formula for increasing dues rates.

The Society currently considers increasing dues based on a formula developed many years ago. The formula is followed most years, with an occasional pause (the formula indicated an increase, but no increase was made). The principle behind the formula seems to be that dues should increase according to the increase in the rate of pay of members. This formula can be looked at as a measure of the ability of members to pay. This is good, but it omits many other factors, and because this measure is backed by a formula, long tradition, and actions of governing bodies, it naturally carries more weight and is more visible than other factors. Those other factors include:

- Willingness of members to pay dues at a particular rate.
- Cost of member services.
- Subsidy of Society programs from other sources.
- Increase or decrease in paying members.
- Effects of efficiency and productivity increases.

The following are principles that should be followed in proposing dues rates:

- a. Dues should be raised as little as possible, and not necessarily annually.
- b. When a dues increase is recommended, the recommended rate of increase should not exceed the current or expected rate of inflation, even if dues have not been increased recently.
- c. Faculty salaries (ability to pay) should be one consideration among many, and not necessarily the most prominent.
- d. Direct and indirect costs of members-only services, membership development, and membership administration should be less than the total of individual dues.
- e. Dues increases should be consistent with the general trend in the costs of providing services to the profession and outreach.

These principles do not constitute a formula. They constitute a statement that dues should be increased only when it can be shown that there is a need or that a dues increase is otherwise desirable. It is recognized that in years when dues increases should be made, staff will have a heavier burden justifying the recommendation.

The remainder of this document includes the following:

- Discussion of principles for setting dues
- AMS Bylaws Article IX – Dues and Privileges of Members
- Attachment 27 to May 2003 ECBT Agenda – Essay on “Dues” by John Ewing
- Certain actions of ECBT and Council establishing the current formula

Background

When the current dues increase formula was proposed to the ECBT (November of 1981), certain objectives were articulated. They included:

- Regular growth in dues.
- Keeping up with inflation (approximately).
- Avoiding large increases after long intervals.
- Providing an “automatic rule”.

At the time this was done, the Society had experienced many years of high inflation. This affected the Society in a number of ways, including increases in many of its costs. In addition, the Society was expanding its physical plant, by adding a warehouse addition in Providence, buying a building in Ann Arbor, and increasing its computing infrastructure. And 1980 marked the beginning of a series of deficit years. Oral history indicates that discussions of the appropriate rate for dues were sometimes contentious. All of these factors provided a good basis for articulating the objectives listed above. How well have these objectives been met?

Growth in dues. There has indeed been growth in dues, up to about the mid 1990s. At around that time, the total individual dues leveled off; that’s also about when growth in paying members leveled off. So the object of regular growth in dues was met initially, but has not been met in more recent years.

	1982	1996	2002
Paying members (per green pages)	13,564	18,784	18,883
Dues revenue (\$1,000s) (per green pages)	\$485	\$1,384	\$1,389
High dues rate	\$48	\$120	\$140

Keeping up with inflation. As John Ewing’s essay (included below) indicates, the dues rate has kept up with inflation. Looking at just 1990 through 2004, the covert formula moves with CPI, but at a slightly higher rate, even when including the year in which dues were frozen.

Avoiding large increases after long intervals. This objective has certainly been met, if only because there have been no long intervals without a dues increase.

Providing an “automatic rule”. This objective has been met, although dues were not increased in a couple of years.

In reviewing the above “objectives”, it’s clear that they really represent one objective (growth in dues) and three principles. In carrying out membership focused planning, it’s fair to say that almost everything we are considering has one or both of the following objectives, with the second being the more important of the two:

- Increase dues revenue.
- Increase the number of members.

That said, the principles we follow in setting dues rates should support the achievement of the objectives above. They should also support the core values of the organization.

Principles for Setting Dues

a. Dues should be raised as little as possible, and not necessarily annually.

This principle is in essence a statement that the organization recognizes that dues should be set based on the facts and circumstances in effect at the time an increase is under consideration and on the view of leadership and management of the long-term need for the increase. If a reasonable case can't be made for an increase or if a majority of the Society's leadership can't agree that an increase is necessary, it shouldn't be done.

b. When a dues increase is recommended, the recommended rate of increase should not exceed the current or expected rate of inflation, even if dues have not been increased recently.

Sudden and unexpected large price increases tend not to be well received, even if they seem to be well justified, as in recognition of a new member benefit. If a large increase were ever needed, it would be far better to spread the increase over a number of years than to do it all in a single year.

c. Faculty salaries (ability to pay) should be one consideration among many, and not necessarily the most prominent.

Using faculty salaries as a yardstick for raising dues raises a number of issues. About 15% of members are in the reciprocity category and an equal number are Category S. For such members, US faculty salaries may not be particularly relevant as a yardstick for dues. More importantly, pegging dues increases to salary increases makes dues seem more like a tax (possible from both the payer's point of view and the payee's point of view).

d. Direct and indirect costs of members-only services, membership development, and membership administration should be less than the total of individual dues.

Any principle like this one is going to have to be a bit arbitrary. One could argue that there is no need for dues to cover any particular set of costs, and one could also argue that dues should cover much more than a bare minimum. The costs listed above should be easy to identify in the AMS accounting system as currently configured. See "**Costs relating to membership**" for more details.

e. Dues increases should be consistent with the general trend in the costs of providing services to the profession and outreach.

This is another principle that is geared toward a long-term view. An expected 5% increase in costs for a year should not automatically trigger a 5% dues increase. It should not be assumed that costs will increase at the overall rate of salaries or CPI. Productivity gains, changes in the way services are provided, etc., can have a very favorable effect on the behavior of costs. And of course, other sources of off-setting revenue should be considered. A final point relating to balancing dues revenue and costs is that dues revenue varies with both quantity of dues payers and the dues rate.

Costs relating to membership

The table below shows costs identified with membership, services, and outreach.

2004 Budget -- Membership and Related Programs (\$1,000s)	Rev	Exp	Net
Individual dues	1,366		1,366
Member Services and Costs:			
Bulletin	220	196	24
Notices	503	958	(455)
Membership Promotions		27	(27)
Governance		491	(491)
Divisional Indirect - Membership		263	(263)
Net - "direct" membership	2,089	1,935	154
Spendable income from supplemental ESF	662		662
Net available for other programs			816
Other categories associated with membership in the green pages			
Services and Outreach	501	1,727	(1,226)
Grant and Endowment Supported	659	730	(71)
Divisional Indirect (Includes a small amount relating to meetings)	10	184	(174)
Total other categories	1,170	2,641	(1,471)
Net shortfall			(655)

The first part of this table includes dues and direct costs of membership. Notices and Bulletin are included in this section, as historically they have been core members-only benefits. Since they are now available online to everyone, a case could certainly be made that they are more in the nature of services and outreach rather than member benefits. At any rate, individual dues currently covers the direct costs of membership promotion, Notices and Bulletin, and governance with about \$154,000 that can go toward support of outreach, etc. All these activities together show a shortfall of about \$655,000, but that is achieved only after including the spendable income from the supplemental ESF.

The Society has operated from the perspective that its business operations (publications) ought to provide some funding to cover outreach and related functions. And they do, as evidenced by the positive operating income amounts.

Number of members

A membership organization must have members, lots of them. This is a little like preaching to the choir, but members provide the basis for the organization's intellectual vitality, its pool of future leaders, and its most important market.

Membership has definitely increased in the years following the adoption of the dues increase formula, although it has leveled off in recent years. It is, however, impossible to say with any certainty whether the dues rates have supported growth or hindered growth. One can say that many people find the rates to be high, and although staff and leadership might be able to conclude that they are not too high, it is difficult to change such an opinion once it is held by members.

Will new principles for setting dues accelerate growth in membership? It is very likely that we will never be able to answer that question. On the other hand, slowing the rate at which dues increase could result in more members feeling that their dues payments are reasonable.

Procedures

These principles will require staff and leadership to begin the process for setting dues a little earlier than is now the case. The following set of procedures provides for the necessary discussions and complies with the requirements of the bylaws.

To change the dues rate for year X+2, the following discussions and actions would be required:

- November of year X – The ECBT discusses the need for a dues increase, following the principles described above. If it appears that an increase is appropriate, the ECBT recommends a dues rate to the Council.
- January of year X+1 – The Council reviews the ECBT recommendation and sets the dues rate for year X+2.
- May of year X+1 – The Board of Trustees approves the dues set by Council.

AMS Bylaws Article IX²

Dues and Privileges of Members

Section 1. Any applicant shall be admitted to ordinary membership immediately upon election by the Council (Article VIII) and the discharge within sixty days of election of the first annual dues. Dues may be discharged by payment or by remission when the provision of Section 7 of this Article is applicable. The first annual dues shall apply to the year of election, except that any applicant elected after August 15 of any year may elect to have the first annual dues apply to the following year.

Section 2. The annual dues of an ordinary member of the Society shall be established by the Council with the approval of the Trustees. The Council, with the approval of the Trustees, may establish special rates in exceptional cases and for members of an organization with which the Society has a reciprocity agreement.

Section 3. The minimum dues for a contributing member shall be three-halves of the dues of an ordinary member per year. Members may, upon their own initiative, pay larger dues.

Section 4. The minimum dues of an institutional member shall depend on the scholarly activity of that member. The formula for computing these dues shall be established from time to time by the Council, subject to approval by the Board of Trustees. Institutions may pay larger dues than the computed minimum.

Section 5. The privileges of an institutional member shall depend on its dues in a manner to be determined by the Council, subject to approval by the Board of Trustees. These privileges shall be in terms of Society publications to be received by the institution and of the number of persons it may nominate for ordinary membership in the Society.

Section 6. Dues and privileges of corporate members of the Society shall be established by the Council subject to approval by the Board of Trustees.

Section 7. The dues of an ordinary member of the Society shall be remitted for any years during which that member is the nominee of an institutional member.

Section 8. After retirement from active service on account of age or on account of long-term disability, any ordinary or contributing member who is not in arrears of dues and with membership extending over at least twenty years may, by giving proper notification to the secretary, have dues remitted. Such a member shall receive the *Notices* and may request to receive *Bulletin* as privileges of membership during each year until membership ends.

Section 9. An ordinary or contributing member shall receive the *Notices* and *Bulletin* as privileges of membership during each year for which dues have been discharged.

² <http://www.ams.org/secretary/bylaws.html#art9> August 26, 2003.

Section 10. The annual dues of ordinary, contributing, and corporate members shall be due by January 1 of the year to which they apply. The Society shall submit bills for dues. If the annual dues of any member remain undischarged beyond what the Board of Trustees deems to be a reasonable time, the name of that member shall be removed from the list of members after due notice. A member wishing to discontinue membership at any time shall submit a resignation in writing to the Society.

Section 11. Any person who has attained the age of 62 and has been a member for at least twenty years may become a life member by making a single payment equal to five times the dues of an ordinary member for the coming year. Insofar as there is more than one level of dues for ordinary membership, it is the highest such dues that shall be used in the calculation, with the exception for members by reciprocity noted in the following paragraph. A life member is subsequently relieved of the obligation of paying dues. The status and privileges are those of ordinary members.

A member of the Society by reciprocity who has reached the age of 62, has been a member for at least 20 years, has been a member by reciprocity for at least 15 of those 20 years and asserts the intention of continuing to be a member by reciprocity may purchase a life membership by a one-time payment of a special rate established by the Council, with the approval of the Trustees.

Dues

Annual dues for the AMS were \$5 in 1891. The amount stayed the same for many years, and rose only slowly during the first half of the twentieth century until it was \$10 in 1948. Dues then doubled more quickly, reaching \$20 in 1966.

In that same year, the Society made a fundamental change in the way dues were set. Until that time, the amount of dues was specified in the bylaws. Now the amount was to be set by the Council, with the approval of the Board of Trustees. In 1974, dues were raised to \$32, and the present two-tiered system was put in place. Finally, in 1982, the Council voted to establish a "simplified" procedure for setting dues, guaranteeing that dues would gradually increase over time, indexed to increases in faculty salaries. Dues have since increased from \$52 (1983) to \$144 (2003).

Over the past twenty years, with only a few exceptions³, dues were set by this formula. It seems to be a reasonable way to index dues to inflation, because faculty salaries are used as the index. But this comfortable reliance on an automatic calculation has masked some fundamental questions.

- Were the dues correct twenty years ago when our current procedure began?
- Does the formula make sense?
- Has the value of membership changed over the past twenty years?
- What are we trying to achieve in setting dues?

The purpose of this document is to elaborate on those questions -- without providing any answers.

Principles of dues

What are the right principles for determining dues?

In the *History of the Second Fifty Years*⁴, Everett Pitcher writes: "The dues of the Society have generally been set at a level to cover cost of the services offered." This seems to have been a belief from the earliest days of the Society, when for the first eight years of its existence dues were almost the only source of revenue. During the next 75 years, increased dues were almost always justified by increased costs.

But this viewpoint seems to assume that dues are meant to (exactly) match expenditures on member services. Why? Because the Society carries out many other revenue generating activities, why not arrange dues to be *less* than the cost of services, subsidizing membership by, say, publications? Or why not arrange dues to be *more* than costs in order to subsidize other parts of the Society (for example, services to mathematicians in the developing world)?

³ Near the beginning of this period, the Board decided that the starting dues were too low and increased dues above the formula in the two years, 1985-86. For 1989, they decided they had overcompensated and froze the dues. Dues were also frozen in 2000 for one year.

⁴ *History of the Second Fifty Years, American Mathematical Society, 1939-1988*, AMS Centennial Publications, vol 1, page 162.

From another point of view, membership in the Society is a simple business transaction. In this case, *demand* is important. Members (or potential members) compare the amount of dues with the perceived value of membership. Of course, the "value" may be more than mere tangible benefits like journals or discounts—for example, gaining professional identity or contributing to the larger community may have value to members. Mathematicians pay dues if value meets or exceeds the dues themselves.

Demand isn't a principle by which we can set dues, however. We must first decide what we hope to accomplish with dues, that is who are the customers we want to attract? Do we want to maximize the number of mathematicians who become members? Do we want to attract mathematicians at the top institutions? Are we aiming for young mathematicians? More established ones? Using *demand* to set dues requires first answering these questions.

Costs

When the present procedure for indexing dues to faculty salaries began, individual dues seemed to fall below the costs of member services each year—although this is not easy to determine.

In 1983 individual dues amounted to \$536K, while "member services" came to \$772K. Those "services" included things everyone would agree are services (*Notices*, *Bulletin*, *CML*), but they also included some things that people might question (Annual Survey, Employment Register, Congressional Fellow) as well as some things most people would certainly *not* include (mailing lists).

The computation of the costs for member services is equally murky today. In 2002, *Services/Outreach* had a net of \$1.33M; *governance* was \$0.38M; and *divisional indirect* (for the relevant departments) was \$0.51M. The total *costs* were therefore \$2.28M, an amount that far exceeded the \$1.39M in individual dues. On the other hand, *Services/Outreach* includes items such as support for the Washington Office and public awareness, as well as the *Notices* and the *Bulletin*. Not everyone will agree on which activities should be classified as "member services".

For this reason, *cost* can serve only as a rough guideline for setting dues: We are unable to determine the costs precisely.

Demand

Has the value of membership changed over the past twenty years?

In 1983, the key tangible member benefits were the *Notices*, *Bulletin*, and various discounts. Today, the *Notices* and the *Bulletin* are available (online) to members and nonmembers alike. Some may consider paper copies of these journals as a member benefit, but the value of these benefits is surely diminished. In recent years, we have added a few additional tangible benefits that were unimagined in 1983—e-mail forwarding and e-CMP (the electronic version of MR sections). Most would agree, however, that tangible benefits to members have decreased over the past twenty years.

What about the intangible benefits? For some members, the professional identity that comes with membership in the AMS is important, either for their job or for their personal satisfaction. Other members place value on supporting the profession, from advancing

science policy to promoting public awareness to providing useful information on the AMS website. They also want to support an organization that provides important services for the community—meetings, surveys, journals, books, and Math Reviews. For these members, their membership is a way to fulfill a professional responsibility.

The argument that the intangible benefits were the *primary* reason for joining the Society was made over and over during the past century. It is a good argument. But many social commentators have noted that our culture has changed in the past half-century. For complicated reasons, membership in all organizations, from Rotarians to the Daughters of the American Revolution, has become less relevant. Scientific societies have been affected as well, and many societies have noted that membership is no longer important for young scientists in order to establish a professional identity. In that sense, cultural changes have lessened the intangible value of membership, at least collectively.

It seems clear that both the tangible and intangible benefits of membership have diminished in the past twenty years.

The Formula

	Low dues	High dues	CPI
1 9 8 3	\$39	\$52	\$100
2 0 0 2	\$105	\$140	\$181
% inc	169.20%	169.20%	81.00%

Does the formula used for the past 20 years make sense? From 1983 to 2002, dues rose by almost 170%. During the same

period, the cost of living (as measured by the Bureau of Labor Statistics) rose by only 81%. The difference is largely because of the dramatic increase in dues during the initial years, when the Board decided the starting point had been too low.

Comparing the increases to faculty salaries is also instructive. The two groups considered are Group I research universities (which expanded over the period) and Bachelors-granting institutions.

	Grp I			Bachelors		
	Asst	Assoc	Full	Asst	Assoc	Full
1983 median	\$24,000	\$29,600	\$45,500	\$22,000	\$26,700	\$31,000
2002 median	\$57,500	\$67,500	\$97,500	\$46,200	\$55,200	\$70,200
% inc	139.60%	128.00%	114.30%	110.00%	106.70%	126.50%

Again, because there was a rapid increase at the beginning of this period, the cumulative increase in dues exceeds the increase in salaries.

It's important to remember that membership depends on decisions of individuals, not of groups. If half our members have salaries that lag behind the median increases in salary, then half our members are likely to view dues as increasing too quickly. Half our members fall into this category each year.

In any case, the information above only provides indirect information about the most important figure—the perceived relative cost of dues to individual members as they proceed through their careers. For example, a member whose own salary is closely tied to the cost of living will view dues as increasing too quickly. Again, many members fall into this category.

The key to membership is retention, and in this sense there is an inherent asymmetry that plays an important role in these considerations. Members who are dissatisfied are more likely to change state, from member to nonmember. But members who are satisfied or very satisfied can only stay members.

What if

What if the Society had frozen dues in 1983? Since dues would be only 37% of their 2002 level, it is possible that individual dues in 2002 would be 37% of the \$1,387,000 (which is \$515,000 -- and a scary thought). Perhaps. On the other hand, if dues had remained \$52, we almost surely would have more members, and hence a smaller shortfall.

But the cumulative "shortfall" is not especially relevant. Freezing dues would have meant roughly \$40,000 less *added* revenue each year. This might have been made up by increased prices on publications, or increased revenue from meetings, or from some other part of our operations. The essential question is not how we can adjust to a huge drop in dues revenue *now* (thankfully), but *what we would have done* to accommodate a steady (or very slowly rising) dues revenue during the past 20 years.

Not many businesses can set prices of goods and services by formula, at least over long periods of time.

That's especially true when they are pricing their most important product.

*John Ewing
Executive Director
April 2003*

**11/81 ECBT Minutes
Pages 21 & 22**

6.23 Proposed Formula for Regularly Increasing Individual Membership Dues.

Last May the BT asked that the ED present a recommendation every November for the amount to be billed the next spring in dues notices for the following year. The objective was to provide a formula for regular growth in dues, approximately taking account of inflation and avoiding large increases after long intervals, which formula could be approved by the Council and used each November as an automatic rule for recommending dues increases.

It was decided that it would not be appropriate to use the CPI, since this may rise more rapidly than the Society's actual cost of doing business. Instead, it was agreed that the AAUP salary indicator, which reflects the "percentage increase in average salary for institutions reporting comparable data to AAUP for the last decade," would be a valid index. This figure is readily available, and at the same time credible in the academic community and directly related to salaries; it has had the following values in recent years:

70-71 to 71-72	3.6%
71-72 to 72-73	4.1
72-73 to 73-74	5.1
73-74 to 74-75	5.8
74-75 to 75-76	6.0
75-76 to 76-77	4.7
76-77 to 77-78	5.3
77-78 to 78-79	6.0
78-79 to 79-80	7.1
79-80 to 80-81	8.7.

This datum has probably recently underestimated the Society's costs, but since individual dues in any case account for only about 5% of the Society's budget, the AAUP salary indicator (reported annually in August or September) could be used by the Trustees each November. (This would mean that university salary decisions made in year n would determine dues increases in year n+3.)

The ECBT recommended that the Council establish a formula whereby dues are increased each year a whole dollar amount equivalent to the AAUP salary indicator.

The ECBT also recommended (based on a recommendation made by the BC) that the Council establish the division point between lower and higher dues for regular members at a round thousand dollar amount about equal to the 60th percentile of the distribution of average salaries of institutions participating in the AAUP salary survey.

JANUARY 1982 COUNCIL MINUTES

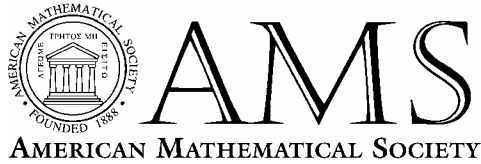
4.1 DUES: The EC made the following recommendations:

1. The Council establish a formula for dues whereby dues are increased each year a whole dollar amount equivalent to the percentage increase in average salary for institutions reporting data to the AAUP for the last decade. (This is referred to as the AAUP salary indicator in the attachment.)
2. That the Council establish the division point between lower and higher dues for full dues paying members at a round thousand dollar amount which places about 60% of those persons at the lower level of dues.
3. That the Council empower the EC to apply the formula and determine the division point annually and to forward the results directly to the Trustees for their approval.

It was understood that dues for the lower paying members remain at approximately three quarters of the dues for higher paying members.

It was observed that salary decisions made in the year n-1 to n determine salaries in the year n to n+1 and are known at the time of the EC/BT meeting late in year n+1. Thus, they are available in the middle of the year n+2 for the printing of dues bills for the year n+3. See minute 6.23 of the EC/BT of 20-22 November 1981. Examples are attached.

Professor Lorch moved to amend the second recommendation that the division point be based on salaries earned in the United States (the effect being to place almost every member outside the United States in the class with lower dues). The amendment was defeated. The recommendations were then passed. It was noted that the Trustees have approved the formula.



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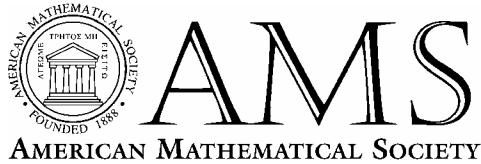
**SECRETARIAT
Business by Mail
May 1, 2003**

**MINUTES
from the Ballot dated April 1, 2003**

There were five votes cast by John L. Bryant, Robert Daverman, Susan Friedlander, Michel Lapidus and Lesley Sibner.

1. Approved electing to membership the individuals named on the list dated March 20, 2003.
2. Approved holding a Southeastern Sectional meeting at Bowling Green, Kentucky, (Western Kentucky University) on March 25-26, 2005.
3. Approved the minutes of the Secretariat Business by Mail from the ballot dated March 1, 2003.

Robert J. Daverman



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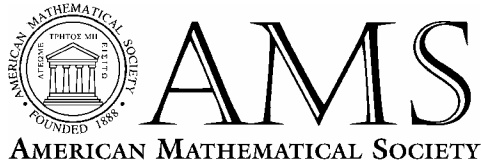
**SECRETARIAT
Business by Mail
June 2, 2003**

**MINUTES
from the Ballot dated May 1, 2003**

There were five votes cast by John L. Bryant, Robert Daverman, Susan Friedlander, Michel Lapidus and Lesley Sibner.

1. Approved electing to membership the individuals named on the list dated April 20, 2003.
2. Approved holding a Southeastern Sectional meeting at East Tennessee State University located in Johnson City, Tennessee, on October 15-16, 2005.
3. Approved holding a Central Sectional meeting on April 8-10, 2005, at Texas Technical University in Lubbock, Texas.
4. Approved the minutes of the Secretariat Business by Mail from the ballot dated April 1, 2003.

Robert J. Daverman



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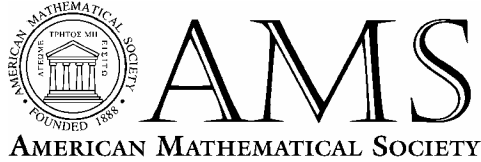
**SECRETARIAT
Business by Mail
July 1, 2003**

**MINUTES
from the Ballot dated June 1, 2003**

There were four votes cast by John L. Bryant, Robert Daverman, Michel Lapidus and Lesley Sibner.

1. Approved electing to membership the individuals named on the list dated May 20, 2003.
2. Approved holding the Spring 2004 Council meeting in Washington, D.C., on April 3, 2004.
3. Approved holding a Western Section meeting on April 16-17, 2005, at the University of California, Santa Barbara.
4. Approved the Applicant for Associate Institutional Membership for 2003.
5. Approved the minutes of the Secretariat Business by Mail from the ballot dated May 1, 2003.

Robert J. Daverman



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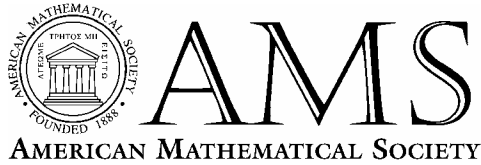
**SECRETARIAT
Business by Mail
August 1, 2003**

**MINUTES
from the Ballot dated July 1, 2003**

There were five votes cast by John L. Bryant, Robert Daverman, Susan Friedlander, Michel Lapidus and Lesley Sibner.

1. Approved electing to membership the individuals named on the list dated June 20, 2003.
2. Approved changing the date of the Spring 2005 Southeastern Sectional Meeting in Bowling Green, Kentucky, at Western Kentucky University from March 25-25 to March 18-19, 2005.
3. Approved the minutes of the March 28, 2003, Secretariat Meeting.
4. Approved holding the Fall 2005 Sectional Meeting at the University of Nebraska in Lincoln, NE, on October 21-22, 2005.
5. Approved cosponsorship of the Methods of Logic in Mathematics: Algebra and Geometry Meeting to be held in St. Petersburg, Russia, during June 2004.
6. Approved the minutes of the Secretariat Business by Mail from the ballot dated June 2, 2003.

Robert J. Daverman



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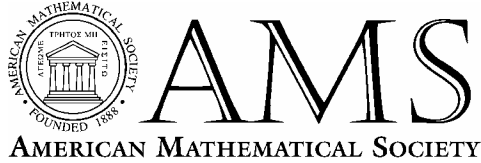
**SECRETARIAT
Business by Mail
September 2, 2003**

**MINUTES
from the Ballot dated August 1, 2003**

There were three votes cast by Robert Daverman, Michel Lapidus and Lesley Sibner.

1. Approved electing to membership the individuals named on the list dated July 20, 2003.
2. Approved institutional membership for the Southwestern University in Georgetown, Texas.
3. Approved the minutes of the Secretariat Business by Mail from the ballot dated July 1, 2003.

Robert J. Daverman



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**SECRETARIAT
Business by Mail
October 1, 2003**

**MINUTES
from the Ballot dated September 2, 2003**

There were five votes cast by John Bryant, Robert Daverman, Susan Friedlander, Michel Lapidus and Lesley Sibner.

1. Approved electing to membership the individuals named on the list dated August 20, 2003.
2. Approved co-sponsorship of the AAAS Annual Meeting and Science Innovation Exposition to be held February 12-16, 2004, in Seattle, Washington.
3. Approved the minutes of the Secretariat Business by Mail from the ballot dated August 1, 2003.

Robert J. Daverman

Committee on the Profession Highlights

September 13, 2003

O'Hare Hilton Hotel, Chicago

The Committee on the Profession (CoProf) and the Committee on Science Policy have formed a joint organizing committee to plan for a panel presentation in Phoenix dealing with aspects of pipeline issues in mathematics. Members of the Committee discussed the possible goals and conceptual framework of the panel and suggested potential panelists and perspectives which could be represented.

CoProf considered a recommendation made by the Centennial Fellowship Selection Committee to change the eligibility period from its current time of between three and twelve years since receipt of PhD to between five and twelve years. The Committee reviewed a history of eligibility criteria for the Centennial Fellowship, data on contribution levels to the Centennial Fellowship Fund and a profile of the PhD-age of the most recent applicant pool. After thoughtful discussion of this topic, it was agreed that action on this item should be tabled for now but revisited in two years at the 2005 CoProf meeting.

The Committee approved recommending to Council the expansion of eligibility for Life membership and the modification of the dues levels for Life Membership, assuming approval of the bylaws changes on the current ballot. It was noted that the bylaws change provides the AMS the flexibility to make future changes to the specific requirements and dues levels for life membership.

CoProf reviewed background material on the Focused Planning effort in the area of membership as well as a preliminary set of recommendations. Members of the Committee discussed the recommendations, and provided feedback on the document for the Staff Steering Committee.

CoProf reviewed alternate phrasing for a proposed prize for outstanding achievement by a mathematics department drafted by President Eisenbud. A subcommittee was formed to elaborate upon and refine the proposal. The refined version, which will emphasize innovation and copy-ability, will be distributed and reviewed by CoProf via email. If CoProf can reach agreement in time, then a final version will be recommended to the November 2003 ECBT and January 2004 Council.

The Committee discussed a 2002 CoProf subcommittee suggestion to recommend to the AMS Council that the charge to the Committee on Human Rights of Mathematicians be broadened to include issues of human rights of foreign mathematicians and the U.S. government. CoProf formed a subcommittee to review the Charge to the Committee on Human Rights, to assess whether it makes sense to include a portion on the rights of foreign mathematicians who experience difficulties during U.S. travel. The recommendations of the subcommittee will be reviewed by CoProf and any approved changes in the charge will be forwarded to the Council for their consideration.

CoProf reviewed a draft paragraph on plagiarism, which the Committee on Professional Ethics (COPE) recommends appending to the current AMS Ethical Guidelines. CoProf formed a subcommittee to review and revise, if necessary, the current AMS Ethical Guidelines. The subcommittee will discuss what portions of the statement warrant update, determine how the revised portions will be phrased, what examples will be included and to whom the statement will be addressed. The recommendations of the subcommittee will be reviewed by CoProf and any approved changes in the charge will be forwarded to the Council for their consideration.

The Committee selected employment opportunities, a subject last reviewed in 1995, as the topic of the coming annual review. Employment issues affecting PhD's and Bachelors recipients may also be examined. A subcommittee will be formed to conduct the review.

CoProf reviewed a report provided by Christine Stevens of the MAA supported Project NExT. The profile of the program and a listing the AMS sponsored recipients and their affiliations were discussed. The committee agreed, without hesitation, to recommend to the November 2003 ECBT the continued support of Project NExT, at its current level of \$15,000 per year.

The next meeting of CoProf is scheduled for October 2-3, 2004 at the Chicago O'Hare Hilton.

Jim Maxwell
Associate Executive Director
October 27, 2003

**American Mathematical Society
Committee on Education Meeting
October 24-25, 2003
Washington DC**

Summary Report

The Committee discussed a number of issues related to mathematics education, including expanded learning and professional development for pre-service and in-service teachers; graduate education in mathematics; the new SAT test; new projects at the NSF; and several programs, partnerships and initiatives which focus on improving mathematics education. Guests of the Committee included representatives from the NSF, Achieve, the College Board and the U.S. Department of Education and several mathematicians involved in educational projects. The meeting was well attended with 49 participants, including chairs of doctorate-granting departments of mathematics from across the country.

Presentation on Preparing Materials and Structuring Mathematics Courses for Pre-Service Teachers

Jim Milgram (Stanford University) presented the case for significant improvement in the K-12 education system in this country. He discussed how standard interventions have failed children and he called for increasing pre-service requirements to address the problem, citing the state of California and its written standards and the University of Georgia with its increase in content requirements for pre-service mathematics teachers as examples. These measures are moving the system towards successful mathematics education, but there is much more work to be done.

Milgram discussed the measures he believes necessary to get back on track, including giving states standards, changing K-8 teacher certification requirements and giving teachers in-service support in mathematics.

Milgram is currently part of a project funded by the Funds for the Improvement of Education (FIE) focused on analyzing the mathematical issues required for effective instruction of pre-service and in-service teachers. A committee has been assembled to work on the project whose objectives are to create course construction guides for development of core college level courses for pre-service K-8 teachers and to develop guides for creating effective in-service math institutes for K-8 teachers. A rough draft of the committee's recommendations are due by the end of December 2003.

The New SAT Mathematics Test

Robin O'Callaghan of The College Board discussed the state of the SAT test in mathematics. She gave background information on the test, including its configuration, content areas and question types. She also gave several examples of the types of questions on the current SAT test and distributed copies of the SAT test preparation booklet. Changes that were made to the test in 1994 were also discussed, including allowing calculators, adding topics and student-produced response questions.

O'Callaghan then presented the changes to the SAT mathematics test that will take place in 2005. The new SAT will eliminate quantitative comparison questions, there will be some content changes, a new configuration and it will be further aligned with curricula. There will be significant change in the algebra and functions portions of the test, as well as changes in other areas including geometry and measurement. The SAT advisory committee also made other broad recommendations including multiple solution strategies, estimation and multiple representations. Other policy changes recommended by the advisory committee included figures being drawn to scale, continuing to give formulae and allowing scientific

level calculators which are what students are using in the classroom. In addition to changes in the mathematics portion of the test, there will also be changes in the reading and writing portion. The first administration of the new SAT test will be in March 2005.

Achieve's Mathematics Achievement Partnership

Laura McGiffert of Achieve discussed the organization's Mathematics Achievement Partnership (MAP) program. She began by giving some background on Achieve and then outlined Achieve's MAP initiative, which was started in 1999 following the Third International Mathematics and Science Study (TIMSS). TIMSS compared U.S. students' performance to that of students from around the world and found that there were serious problems in mathematics education in this country, particularly by the time students reached middle school. The MAP initiative is working to help address these problems.

Achieve partnered with ten states to embark on the MAP initiative with the goal of improving middle school mathematics achievement by raising expectations and improving teaching. The MAP initiative utilized a panel of university mathematicians, mathematics educators and state and local supervisors of mathematics education to develop *Foundations for Success*, which outlines student knowledge expectations at the end of 8th grade. Initially, the MAP initiative was looking to develop a common assessment of student knowledge to be used across the states, but it had to make a strategic shift following the institution of the "No Child Left Behind" legislation. The climate under this new legislation was less supportive of a common assessment.

MAP is currently working with a New England consortium in addition to its ten partner states. The states want to collaborate on improving their own assessments, improving the quality of the data that drives decision making and perhaps collaborating on a set of standards for teacher knowledge at the elementary and secondary levels. Achieve is working to develop guidelines to help states achieve the level of success outlined in *Foundations for Success* and are doing this by "backmapping" – looking backward to see what steps are necessary to achieve the outlined goals. Achieve is planning to have a consultation draft of the K-8 benchmarks published in March 2004 and will ask the AMS Committee on Education to formally review it prior to publication.

U.S. Department of Education Mathematics and Science Partnerships (MSP) Program and the Mathematics and Science Initiative (MSI)

Patricia O'Connell Ross gave a description of the "No Child Left Behind" program and then described the Title II program, which is a \$3 billion program that funnels money to the states to address the need of improving teacher quality. Within Title II, there are mathematics partnership programs. Initially, the bulk of the funds for the mathematics partnership went to the National Science Foundation (NSF). Now there are two programs – one at the NSF and one at the Dept. of Education.

The Dept. of Education Mathematics and Science Partnerships (MSP) Program gives formula funded dollars to states with the intent of increasing the academic achievement of students in mathematics and science by providing for the professional development of teachers with a focus on content knowledge and related teaching skills. The core partners of the program must be arts and science faculty in higher education and high-need school districts, although other partners are also allowed. It is a discretionary grant program administered by the states with annual evaluation reports submitted to the Secretary of Education. The size of the grants range from \$500,000 to \$15 million and are mostly funding multi-year partnerships. The 2003 total funding amount for this program is \$100 million.

The Dept. of Education Mathematics and Science Initiative (MSI) was launched this year and focuses on achieving three goals: conducting a broad based public engagement campaign that draws attention to the need for better mathematics and science education in U.S. schools; initiating a major campaign to recruit,

prepare, train and retain teachers with strong backgrounds in math and science; and developing a major academic research base to improve our knowledge of what boosts student learning in mathematics and science in the classroom.

Ross also reported that the Dept. of Education will hold a Summit on Science on March 16, 2004 during “Excellence in Science, Technology and Math Education (ESTME) Week,” March 15-20, 2004.

National Science Foundation Math and Science Partnership (MSP) Program

Diane Spresser, Senior Program Coordinator of the MSP Program at the National Science Foundation - Directorate for Education and Human Resources (NSF-EHR) outlined the MSP Program as a major research and development effort designed to improve K-12 student achievement in mathematics and science.

In 2002-03, the MSP Program supported 12 awards for Comprehensive Partnerships that implemented change in mathematics and/or science educational practices resulting in improved student achievement across the entire K-12 spectrum. It made 23 awards for Targeted Partnerships in mathematics and/or science with a focus on narrower grade bands in K-12. It also provided one prototype award for an Institute Partnership in the areas of content and leadership.

In 2004, NSF seeks to support three types of MSP projects: Targeted Partnerships for the secondary grade levels; Institute Partnerships; and Research, Evaluation and Technical Assistance (RETA) in support of the Institute Partnerships. The 2004 Institute Partnerships will be focused on the development of school-based intellectual leaders and master teachers; and teachers of mathematics or the sciences in the secondary grades and elementary specialists. Participants will be experienced teachers who want to deepen content knowledge and build leadership skills. The Institutes will be multi-year programs of coherent study within a particular discipline. The 2004 RETA proposals must support the work of the Institute Partnerships through research on the characteristics that define and contribute to the development of teacher intellectual leadership; development of assessments on teacher growth in content knowledge, leadership and/or reflective practice; or research on the attributes of challenging mathematics/science content.

National Science Foundation Mathematics Education Portfolio Review

Janice Earle, Senior Program Director of the Division of Elementary, Secondary, and Informal Education (ESIE) – a division of the NSF-EHR -- provided an update of the Mathematics Education Portfolio Review. This portfolio review gives the NSF a means by which to critique its mathematics education programs across divisions in order to determine their value to the mathematics education system. The criteria used to judge the portfolio includes determining the relevance of the portfolio, its quality and performance. The data reviewed by expert panels includes EHR program solicitations and “Dear Colleague” letters from 1994-2002; a random sampling of projects; “profile” cases on projects that have had a significant impact; analysis of responses by external resource groups (some 20 mathematics and general education organizations were invited to participate); and presentations from their first expert panel meeting that looked at the mathematics education system as a whole.

During this review process, the expert panel also raised some issues including the appropriateness and centrality of mathematics content in programs; NSF infrastructure, processes and procedures; long term impact and sustainability of programs; and the size, scope and duration of awards. The panel will meet again in January 2004 to formulate a plan for the future based on these issues. The final report on the Mathematics Education Portfolio Review is due in February 2004.

National Science Foundation New Pipeline Projects

John Conway (University of Tennessee), Program Director for the Division of Mathematical Sciences (DMS) at the NSF, gave an overview of some new pipeline programs at the DMS. These programs fall under the project name “Enhancing the Mathematical Sciences Workforce in the 21st Century” and consist of three parts: Vertical Integration of Research and Education (VIGRE); Mentoring Through Critical Transition Points (MCTP); and Research Training Groups (RTG) – the last two are new.

The goal of RTG is to provide groups of researchers having related research goals in the mathematical sciences with funds to foster research-based training and education. There is \$4 million available for this project with possibly nine awards up to \$500,000 per year for five years. The MCTP will provide a system of mentoring, devoted to points of transition in a mathematical sciences career path that are critical for success, from undergraduate studies to the early years in a tenure track position. There is \$4.5 million available for this project with possibly six awards up to \$500,000 per year for five years. Another project is Interdisciplinary Training for Undergraduates in Biological and Mathematical Sciences (UBM). UBM was started on a trial basis this year with award amounts that will range up to a total of \$100,000 for up to two years.

Professional Development Programs for Vermont Teachers

Ken Gross (University of Vermont and Lesley University), the Director of the Vermont Mathematics Initiative (VMI) gave an overview of the VMI and the Vermont Mathematics Partnership (VMP). The VMI began five years ago and is a comprehensive, professional development masters degree program for training K-6 mathematics teacher leaders – a three year program at the University of Vermont. There are approx. 150 teachers in the program representing 60% of Vermont’s school districts and the goal is to put a mathematics teacher leader in every elementary school in the state. The VMP is one year old and is funded jointly by the NSF through the MSP Initiative and by the U.S. Department of Education and builds upon the VMI by expanding from K-6 to middle level, high school and into the pre-service area as well.

The principle that these programs are built on is that it is the teacher that makes the difference in effective mathematics education and these programs strive to arm teachers with the knowledge and skills they need to become leaders in their classrooms, schools and districts.

Status Report on the MAA CUPM Curriculum Guide 2004

Michael Pearson, Director of Programs & Services for the Mathematical Association of America (MAA) gave a status report on their Committee on Undergraduate Programs in Mathematics (CUPM) project. The 2004 publication will be the sixth set of guidelines over the past fifty years that makes recommendations to guide mathematics departments in designing curricula for their undergraduate students. Many recommendations in this new guide echo those in previous reports, but the biggest difference between the 2004 guide and previous editions is that it will address the *entire* college-level mathematics curriculum – earlier reports focused on undergraduate programs for mathematics majors only.

The pre-publication draft of the new report was completed in September 2003 and the expected publication date of the final report is late January 2004. The Calculus Reform And the First Two Years (CRAFTY) Curriculum Foundation’s reports will be published along with the CUPM guidelines and bundled together to be sent to all mathematics departments in the U.S.

Review of AMS Educational Activities

Roger Howe, CoE Committee Chairman, reminded the committee that at last year's meeting, the CoE set up a five year cycle of reviews of AMS education activities -- a review of the Young Scholars Program is this year's charge. In 2004, CoE is to look at graduate education. A subcommittee will be formed to conduct this review process.

Report on the AMS Young Scholars Program

Bob Devaney (Boston University) presented the written report prepared by the CoE subcommittee consisting of Devaney, Bill McCallum and Louise Raphael on the review of the AMS Young Scholars Program. This report was prepared for the AMS Executive Committee and Council as part of the educational activities review process established at last year's CoE meeting. Overall, the committee found the Young Scholars Program to be well received in the mathematics community with very positive effects. The committee's recommendation is to continue the program and possibly enhance it by seeking outside support, perhaps through industry and/or through foundations.

The Committee on Education voted to accept the subcommittee's Report on the AMS Young Scholars Program as presented and is submitting it to the AMS Executive Committee and Council as part of this summary report (**see Attachment #1**).

Graduate Education and the Carnegie Foundation Initiative on the Doctorate (CID)

Hyman Bass (University of Michigan), John D'Angelo (University of Illinois at Urbana-Champaign), and John Ewing (AMS) led a panel discussion on the Carnegie Foundation Initiative on the Doctorate (CID) – a multi-year research project aimed at improving the doctorate in American universities. There are eight partner mathematics departments (Duke University; Ohio State University; SUNY at Stony Brook; University of Chicago; University of Illinois at Urbana-Champaign; University of Michigan, Ann Arbor; University of Nebraska-Lincoln; and University of Southern California) participating in the initiative, which is examining six fields of study. Discussion focused on the stewardship of the profession and the best way to improve it.

CoE Activities at Phoenix, AZ Joint Mathematics Meetings, January 2004

Roger Howe reported that CoE would sponsor a panel discussion entitled "The Evolution of State Mathematics Standards: How Can Mathematicians Contribute?" on Saturday, January 10 from 8:30-10:00 am. Howe will moderate the panel, which will include panelists: Johnny Lott of NCTM and the University of Montana; Laura McGiffert of Achieve; a representative of the Association of State Supervisors of Mathematics (ASSM); and a mathematician.

Date of Next Meeting

The next meeting of the AMS Committee on Education was scheduled for Friday-Saturday, October 22-23, 2004 in Washington, DC.

Submitted by Anita Benjamin
American Mathematical Society
October 31, 2003

Report on the AMS Young Scholars Program

With the demise of many sources of funding for programs catering to talented mathematics students at the high school level, the AMS initiated its Young Scholars Program (YSP) in 1999. The aim of this program is to provide (partial) support for programs for mathematically talented high school students. The specific goal is to fund summer programs that support and nurture mathematically talented youth in the US, and to make these opportunities available to the broad pool of all mathematically talented high school students living in the US.

Since its formation, the YSP has funded a variety of summer programs in the years 2000-2003. The initial plans called for AMS eventually to support these programs for up to a maximum of \$100,000 per year. The total number of programs funded and total dollar amount for the first four years of the program are:

2000	7 Programs	75K
2001	6 Programs	80K
2002	8 Programs	80K
2002	8 Programs	80K

In 2003 the following programs received AMS support through this program:

Program	Location	Director
All Girls/All Math	U. Nebraska	G. Hines, J. Walker
HCSSiM	Hampshire College	D. Kelly
PROMYS	Boston U.	G. Stevens
Ross Program	Ohio State	D. Shapiro
SUMaC	Stanford	R. Mazzeo, R. Sommer
SWT Honors	Southwest Texas State	M. Warshauer
Young Scholars Prog.	U. Chicago	P. Sally
Canada/USA Mathcamp	Math Foundation of America	M. Campbell

For the currently supported programs, the dollar amount of support varies from \$5,000 to \$15,000 and the number of participants ranges from 30 to 100 high school students, although many programs support a few college students as counselors as well.

Program Students	Award Amount	Number of
All Girls/All Math	\$5,000	30
Hampshire	\$15,000	35-50
PROMYS	\$15,000	60
Ross Program	\$10,000	30-40
Stanford	\$9,000	36
SWTexas	\$9,000	50*
Chicago	\$5,000	100
Canada/USA	\$12,000	100

*Southwest Texas also runs a junior summer camp with 1,000 participants per year.

All of the programs make some effort to attract female and minority participants, although some make a more serious effort than others. For example, the Southwest Texas program reports that it was “majority minority” for the first time this past summer. The Chicago program, since it draws heavily from the Chicago public schools, always has “significant participation by women and members of underrepresented groups.” Most of the programs report that they use some of the AMS funds to offer full, merit-based scholarships for female and minority participants. Still, one program, which traditionally was 25% female, reports a significant drop in applications from females in recent years.

The funded programs all seem to be well established. The Ross Program has been in existence for 46 years now and the Hampshire College has been functioning since 1971. Most of the other programs are 10-15 years old at this stage.

Issues.

1. Emphasis on Number Theory One interesting fact that emerged from our review is that all of the summer programs are weighted toward number theory. Some deal exclusively with this subject, while others include other topics as well. The committee has no real problem with this emphasis. Indeed, we feel that number theory is one area that is both accessible to talented high school students and yet

allows them to become involved in rigorous mathematics from the outset. Moreover, since this is not a topic that is usually covered in most high schools, this area allows all participants to enter the program on the same “level playing field.”

Program	Topics Covered by the Programs.
All Girls/All Math	Codes, number theory, chaos
Hampshire	Number theory, combinatorics, special topics
PROMYS	Number theory, geometry
Ross Program	Number theory
Stanford	Abstract algebra/number theory, topology
SWTexas	Number theory, abstract algebra, combinatorics, analysis, Mathematica programming
Chicago	Number theory, geometry
Canada/USA	Number theory, abstract algebra, real analysis, discrete math, topology

2. Effectiveness of the Programs. Organizers of the supported programs did not provide specific evidence of the effectiveness of their programs in terms of the numbers of “graduates” who went on to careers in mathematics (or science and engineering). Some did provide lengthy lists of program graduates who now are career mathematicians. Given the problems that many colleges and universities face in tracking their undergraduates after graduation, the committee had no problem with the lack of hard evidence of success. All of the anecdotal evidence does suggest that these programs do lead many participants toward careers in the mathematical sciences.

3. Established vs. New Programs. Members of the committee that selected the awardees noted that, in the first two years of the YSP, awards were made to the most well established programs rather than newer programs. This caused a decline in the number of applications for support in later years of the program, presumably because non-supported programs became discouraged. This raises the issue of whether AMS should use the funds available as seed money for fledgling programs or to help bolster proven successful programs. Of course, arguments can be made in favor of both sides of this issue. Given the small amount of available funding, the committee had no problem with the continuation

of funding for established programs, modulo the recommendations below. However, this issue needs to be addressed as the YSP becomes a more mature program.

4. Administrative Matters. The committee found only minor problems regarding the administration of the YSP. For example, several program directors mentioned that the monetary awards from AMS came a little too late, often after they had made their plans for the number of students that they would accommodate during that summer. The awards committee has made several multi-year awards recently, and this seems to be an approach that works much better for the awardees.

As might be expected, many of the program directors wished for a larger dollar figure in their award. On the other hand, one program director said “Even though the funds we’ve received is small, it’s enough to leverage funding from our University. Do keep the number of programs supported small however. Part of what makes leveraging additional funding relatively easy is the prestige factor.”

Subcommittee Recommendation. In all respects, the AMS Young Scholars Program is important for the discipline and is quite successful as currently implemented. There is no question that the YSP is well-received in the mathematics community and has a very positive effect on a number of our youngest colleagues. To quote another program director: “This is not just a good idea, but an essential role for AMS. This is exactly the sort of activity in which the AMS should be involved. If the mathematics profession is to encourage and promote growth for potential mathematicians, then programs such as the YSP should be strongly supported.... In fact, the YSP should be displayed more visibly as a major activity of the AMS.”

There is also no question that the YSP program should be continued and, indeed, enhanced. The subcommittee recommends that the AMS seek outside support for this program, perhaps through industry (Exxon-Mobil comes to mind) or through foundations. Further funding would surely spur the growth of other such programs and further strengthen the future of the mathematical sciences.

Robert L. Devaney
William McCallum
Louise A. Raphael

Committee on Publications Annual Report 2003

A meeting of the AMS Committee on Publications (CPub) was held on September 19-20, 2003 at the O'Hare Hilton, Chicago, IL.

As part of the regular review cycle of the Society's publishing program, the Committee reviewed the *AMS Book Program*. The review considered the scientific quality of the program and its underlying editorial policies, but it also extended to aspects of the program not normally considered by the Committee. This was largely because many changes have been made to the book program in the past two years, and the Committee was asked to comment on the overall effect of those changes. CPub endorsed the goal of expanding the scope of some of the existing book series to include a broader range of mathematics.

As part of the review, the Committee also considered the suggestion to combine some of the editorial boards for existing book series. No conclusions were drawn about the advisability of doing this.

The Committee undertook a review of the existing *Copyright Policy* and its implementation in light of the recent changes in scholarly publishing. The Committee agreed that the current AMS policy is fundamentally sound. There are some minor problems, however, and the Committee discussed recommendations for fixing them. There was consensus among Committee members to adopt the "Moderate Approach" as presented by the Publisher. The Committee formed a subcommittee to draft a revised statement of policy that would (i) maintain all the rights given to authors as specified in the existing copyright statement, (ii) slightly expand the rights licensed to the Society when authors hold the copyright, and (iii) make it possible for authors to dedicate their work to the public domain 28 years after publication if they choose to do so. A revised statement can then be forwarded to the AMS Board and Council for approval.

The Committee also passed a resolution about policy and process in dealing with copyright in the future:

The committee on Publications (along with the Council and Board) will have full responsibility for determining the copyright policies of the AMS and will exercise that responsibility by creating clear policies and reviewing them periodically. Staff will have responsibility for implementing those policies by designing a consent agreement, updating it and occasionally modifying it to confirm to changes in the environment (or the law).

The AMS is regularly approached with proposals to publish *New Journals* and the Committee was asked to comment on whether the AMS should provide help to other organizations to start them. In many cases, those who propose new journals already have the ability to produce the journals and merely lack the ability to distribute them, either in print or electronic form. As a result, the Society has established a model for providing help with the distribution of new journals at minimal or no cost to the AMS. This provides an important service to the mathematical community, especially in the developing world. AMS provides mostly advertising, stability and distribution, and is not involved in editorial work. The Committee voted to review the policies for AMS distribution of *New Journals*, as part of the regular four year cycle of reviews presently conducted by CPub.

The AMS was asked whether it wanted to endorse a *Probability Digital Library* project by Jim Pitman (Berkeley). The project has requested funding from the National Science Foundation and has received non-financial support from various organizations. CPub endorsed the concept of the proposal, but did not think it appropriate to forward a recommendation for official endorsement to the AMS Council. The AMS Executive Director was asked to write a letter of encouragement for this project.

The length of time to make decisions and the pressure to process manuscripts for AMS journals has increased in recent years. Ultimately it is hoped that centralized manuscript tracking will solve the problem; in the meantime, other steps need to be taken. One of these is a proposed new set of *Guidelines for New Editors of AMS Journals*, with suggestions for a basic protocol to handle manuscripts submitted to the Society's journals. The Committee recommended adoption of the guidelines and requested that they be sent to all editors, current and new.

The *Digital Mathematics Library*, a project meant to coordinate digitization of the printed mathematics literature from the past is moving forward slowly. Progress has been made and there are a number of digitization projects already underway. Two groups met in May—the NSF sponsored project through Cornell University and the Committee on Electronic Information and Communication of the IMU. Minutes of the CEIC meeting and the recent article in the *Notices* on the *Digital Mathematics Library* were submitted to the Committee for information and discussion.

The Committee received reports on *Mathematical Reviews*, *Bulletin*, *Notices* and the journal backlog.

AMS Member Journals (*Bulletin*, *Notices*, and *Abstracts*) was selected by CPub as the review topic for 2004. Next meeting was scheduled for October 1-2, 2004 in Chicago, IL.

Respectfully submitted,

*Robert L. Bryant, Chair
Durham, North Carolina
October, 2003*

Report on the Mathematical Reviews Editorial Committee October 2003

The Mathematical Reviews Editorial Committee (MREC) met for its annual meeting on September 29, 2003. The meeting opened with an introductory information item (based on the 2004 Operating Plan and the 2002 Annual Report) to orient the new MREC member, Lisa Fauci, and the member-elect, Tadao Oda, and provide background for the later items in the agenda for the remaining committee members, Heinz Engl, Jon Hall, Yuji Ito, Ron Stern and Al Taylor.

The MR Editorial Statement (available at <http://www.ams.org/authors/mr-edit.html> and in each January issue of paper *Mathematical Reviews*) includes in broad terms a description of the scope of coverage of the MR Database and of the different types of treatment for items in the Database. A number of items on the MREC agenda provided information on the current scope and treatment and on specific issues illustrating the problems of delineating the scope and deciding on treatment. Following discussion of these items, with the MR Associate Editors present, the Committee agreed that the Statement needed revision to more accurately reflect current policies. Guidelines were provided for staff to implement.

A standing item on the agenda (related to the scope of the Database) is a presentation of Database statistics: the numbers of items and reviews added to the Database by year, and within each year by 2-digit primary classification; the percentage of items listed without a review (“index only” items), again by year and primary classification; and a breakdown of the reviews by type. It is expected that in 2004 over 74,000 new items (including Database Expansion items) will be added to the Database along with over 56,500 reviews. These represent increases of 3.6% and 5.6%, respectively, over the corresponding 2002 numbers. There have been increases in all fields, but most significantly in statistics. The editors continue to use “index only” treatment as a way to keep the number of reviews within limits current staffing levels can process, but this is hard to do; the editors would prefer to give more information to the user on many of the “index only” items.

In further discussion of the scope of the Database, MREC affirmed the principle that to be considered for inclusion in the Database, items should be both published and refereed. Specific issues related to scope and treatment included coverage of journals primarily intended for mathematics educators (for example, the *College Mathematics Journal*) and coverage of “short notes” of the type published, for example, in *Doklady Akademii Nauk*.

Ten years ago, at its fall meeting, MREC recommended that a new type of review, a Featured Review, be introduced for outstanding papers and books. The proposal was endorsed in turn by the ECBT and the Council. The first such reviews appeared in the January 1995 issue of paper *MR*; over 900 Featured Reviews have appeared to date. MREC was invited to conduct an in-depth review of Featured Reviews; the Committee will act as a whole to carry out the review and report back to next year’s MREC meeting.

The Committee heard a report on the current status of the Digital Mathematics Library and, in particular, details of the older runs of journals that are now or soon to be available. It has been AMS policy for some years to provide links from MR Database items directly to the original wherever this is possible. As the older material is digitized, the scope for such linking is increased. A large number of links to recent articles have been added over the past year. Links to items in JSTOR have been available for some time. MREC urged that links to post-1940 material available on line be added as soon as possible. [Since the meeting, article-links have been added for several journals at the NUMDAM site. It is expected that journal level links will be added very soon for the journals available at the Göttingen site.] As resources allow, it is hoped to add some of the digitized pre-1940 material to the MR Database (as index only items) together with links to the original. The complete run of the *Annals of Mathematics* will be added this fall.

The Committee approved a proposal to expand the number of journals for which the reference lists are included in the MR Database from the current 98 to around 200 by the end of 2005, with coverage starting with the 2000 issue year.

The Committee considered proposals to provide closer links between the 2000 Mathematics Subject Classification and classifications designed for specific areas of mathematics, but no action was proposed at this time.

Among the information items on the agenda was a report of the most recent version of MathSciNet. There was enthusiastic support for the new sort order for search results (which had been suggested at last year's MREC meeting). The Committee also heard about the choice of languages available for the search pages and the new format of the MR identifier. The Committee also saw a demonstration of MRef; members were impressed by its ability to identify references from surprising little information.

There was a report on the two mini-surveys carried out earlier this year on the Web, one on the use of classifications and the second on the use of paper *MR*. Unfortunately, the results were not as definitive as had been hoped. A third mini-survey, on the use of reference lists, is planned.

There were short reports on the pricing structure for MR-related products, the current status of Database Expansion items (which will soon include items in computer science) and a comparison of the numbers of items in the MR and Zbl Databases.

MREC thanked the retiring member, Yuji Ito, most warmly for his six years of service on the Committee.

Jane Kister
October 2003

Washington Office
Report to ECBT
October 22, 2003

The annual appropriations process is coming to an end. Okay, this is a stretch, only three of thirteen appropriation bills have been signed into law. Rumor has it that there will again be an omnibus appropriations bill passed sometime in November, including all the remaining appropriations bills. Hopefully we will not go past January without a new federal budget, as was the case for FY 2003.

The news on the NSF budget is mixed and is still not settled at this writing. The House and Senate VA-HUD and Independent Agencies Appropriations Subcommittees have each written their version of the VA-HUD bill, and the House has passed its version. The Senate, on the other hand, has not passed its bill and probably will not.

What is likely to happen, according to Senate VA-HUD staff, is that behind the scenes the House and Senate will agree on a VA-HUD bill and this agreed upon bill will be included in an omnibus appropriations package, which the Senate and House will pass and the President will sign.

In the House version of the VA-HUD bill, the NSF received an FY 2004 budget that is a 6.2 percent increase over the FY 2003 level and on the Senate side the NSF received a 5.2 percent increase. The final FY 2004 NSF budget will be worked out in negotiations between the House and Senate, normally a splitting of the difference between the two budget levels. No matter what the FY 2004 budget turns out to be, it will be far short of the \$6.39 billion authorized in the NSF Authorization Act passed by Congress and signed by the President in 2002.

In the two VA-HUD bills the Division of Mathematical Sciences budget was not specifically mentioned which should mean that \$201,870,000 will be the FY 2004 budget level for the DMS. This is the amount designated in the President's budget request and, unless stated otherwise in the bills, the President's request level is usually maintained.

During the summer and early fall months, Sam Rankin made numerous visits with colleagues from other societies to the offices of Members of Congress on the House and Senate VA-HUD Appropriations Subcommittees pushing for a substantial increase in the NSF budget. Sam also made solo visits to talk specifically about the DMS budget.

Sam also worked the Hill with colleagues, asking Members in the House to sign on to a "Dear Colleague" letter authored by Congressman Vernon Ehlers. This letter, written to Congressman Walsh, Chair of the House VA-HUD Appropriations Subcommittee and Congressman Mollohan, Minority Leader of the Subcommittee, urged a budget for NSF of \$6.39 million. With a lot of work from the scientific community and Mr. Ehlers' office, 155 House Members signed the letter. Mr. Ehlers was pleased with this level of support and wrote a personal thank you to Sam to share with his Coalition for National Science Funding colleagues.

The FY 2004 DOD budgets have passed, however even though the research and development lines have increased, spending for basic research is down. For the DOE Office of Science, a conference committee will decide the budget, as each legislative body has passed a version of the bill. In the House version, the Office of Science R&D budget is up 4.3 percent over FY 2003 and is up just 1.2 percent in the Senate.

The Coalition for National Science Funding (CNSF) Exhibition was held on June 17. Sam Rankin directed this event and the Washington office handled the bulk of the logistics. Thirty NSF funded projects in research and education were on display. The event attracted over 270 attendees including eight Members of Congress. Several Members stayed over an hour meeting and talking to exhibitors. The AMS sponsored Professor Kenneth Golden of the University of Utah and his undergraduate research student Amy Heaton. Their exhibit, titled "Mathematics of Sea Ice," received a continuous stream of visitors.

On July 10, the Washington office held its annual luncheon briefing for Members of Congress and their staff. Congressman Vernon Ehlers co-sponsored the briefing. The briefing, "Mathematics is Biology's Next Microscope, Only Better; Biology is Mathematics' Next Physics, Only Better," was presented by Professor Joel Cohen of Rockefeller and Columbia Universities. Over seventy-five people attended this event. Professor Cohen did a nice job emphasizing the growing importance of mathematics in biological research.

Also, in July Sam was invited to give a presentation at the annual meeting of the Council of Engineering and Scientific Society Executives (CESSE) held in Minneapolis, MN. His presentation was part of a session on building an effective government relations group within a professional society.

Even though the FY 2004 federal budget has not wrapped up, we are turning our attention to FY 2005. On October 7, AMS President, David Eisenbud and Sam met with Dr. Kathie Olsen, Associate Director for Science of the Office of Science and Technology Policy. During the meeting we thanked the Administration for the support mathematics has been receiving through the NSF mathematical sciences initiative and pointed out some of the impacts the initiative is having. We also pointed out that mathematics is still underfunded relative to other sciences and that for the discipline to remain healthy it needs to receive budget increases similar to those of the last several years.

Sam and his Washington colleagues have begun to discuss strategy concerning the overall FY 2005 NSF budget. This group hopes to arrange a meeting with several representatives of scientific societies and industry with Office of Management and Budget Director, Josh Bolten. The purpose of the meeting is to inform Mr. Bolten of the value of basic research to the nation and that the NSF is an important agency in this regard. We also want to encourage him to push the Administration to make larger investments in scientific research. Kathie Olsen has consented to helping us arrange this meeting with Bolten.

Another activity that we are considering is to hold an appreciation day in Missouri for Senator Kit Bond. Senator Bond, as you know, has been a strong proponent of the NSF and has stated publicly, on many occasions, that he would like to double the NSF budget in five years. We want to encourage him not to lose sight of this goal, and so, hope that by having an event in his state where he is not only honored by the universities and researchers in his state but by universities and researchers from around the country, he will continue his quest for substantially increasing the NSF budget. Unlike the NIH, the NSF does not have a true champion in the Congress, someone that will go all out to support large increases in the agency's budget, such as Senator Specter and former Congressman John Porter have done for the NIH. Those of us in Washington are hoping to encourage Senator Bond to be the champion for the NSF.

Speaking of the NIH, on November 24 David Eisenbud and Sam will meet with NIH director Dr. Elias Zerhouni. Dr. Zerhouni has stated publicly his desire to set up collaborations between the mathematical and the physical science disciplines and the biomedical sciences. This meeting is to show our interest in collaborating and to point out that we already have a program of collaboration with the NIH through the DMS.

Over the last two months, the Office has been concerned with the annual meeting of the Committee on Education. This meeting will take place on October 24-25. Representatives from the NSF, the DoED, Achieve, MAA, as well as several mathematicians involved in K-12 mathematics education will make presentations. On Saturday, October 25, the committee will have a panel discussion on graduate education.

On September 30, 2003 Monica Foulkes officially retired from the AMS. Monica helped establish the Washington Office in 1992. A retirement reception was held in Monica's honor in the Washington Office on September 25. Colleagues from several societies Monica has worked with over the years, dropped by to wish Monica well. She will be missed.

Anita Benjamin has taken over for Monica. Anita overlapped several weeks with Monica so that Monica could indoctrinate her to the AMS and to AMS procedures. Anita is a "quick study" and is rapidly and ably learning the ropes.

Submitted: Samuel M. Rankin, III
Director, AMS Washington Office

Life Membership

Life membership was an early option for members of the Society. Beginning in 1898, any member could attain life status with a single payment of \$50. (Dues were \$5 at the time and remained at that level until 1921.) Life members had the same privileges as ordinary members, but without the obligation to pay dues. There was no emeritus membership and the life category appears to have been largely for those members retiring from active work. It was, however, clearly viewed as a means of stabilizing membership as well.

By 1939, the single \$50 fee for life membership was clearly inadequate to pay for the services provided to those members. A special membership committee recommended to the Council to eliminate the category (for new life members) and then to establish a new Emeritus membership category for retired members who had been members for at least 20 years¹. Those changes were made in 1941-42, and remained in place for more than 40 years.

In 1986, life membership was reinstated under terms that were more actuarially sound. A member for at least 20 years who had reached the age of 62 could become a life member by a single payment of 5 times annual (high) dues. Shortly afterwards, the provision was modified to add the possibility of life membership for reciprocity members. The detailed description is contained in Section 11 of Article IX of the bylaws (which are included at the end of this attachment.)

There are currently about 425 life members (one-quarter through reciprocity) and about 2100 emeritus members. The Society currently adds approximately 25 new life members each year and approximately 150 emeritus members each year, with the latter number growing slowly but steadily in recent years.

Proposal for Expanded Eligibility for Life Membership

The Committee on the Profession (CoProf) endorsed the following proposal for expanding eligibility for life membership at its fall 2003 meeting.

Life Membership

A person may become a life member by making a single payment of dues determined by age at the start of the membership year according to the following:

- Age 60 or above: five times ordinary high dues,
- Age 50 or above: ten times ordinary high dues,
- Age 40 or above: fifteen times ordinary dues.

A life member is subsequently relieved of the obligation of paying dues. The status and privileges are those of ordinary member.

¹ Emeritus members were to receive announcements of meetings but *not* the Bulletin. The “announcements” transferred to the Notices as it grew over the years. The Bulletin was reinstated as a privilege of emeritus membership in recent years.

An exception to the above is made for a person who is currently a member by reciprocity, has been a member by reciprocity for the previous two years and asserts the intention of continuing to be a member by reciprocity. Such a person may purchase life membership by a single payment of dues determined by the formula above but with ordinary high dues replaced with reciprocity dues.

This proposal will be presented to the January 2004 Council for approval. If approved by both the BT and the Council, the new criteria could go into effect for renewals for the 2005 membership year.

Motivation for expanding eligibility

The new eligibility rules are no longer aimed at accommodating retired members, who are already taken care of by emeritus membership. Instead, the proposal is aimed at one of the original purposes of life membership—as one small step in an effort to stabilize membership.

The life option relieves members of the burden of annual renewals. Evidence suggests that many members do not renew in large part because renewal forms are lost in piles of other (forgotten) papers. When reminded sufficiently often, these members often renew eventually, but the process can be both irritating and (for the AMS) costly. Life membership is one possible mechanism to ensure that someone does not inadvertently let a membership lapse. Indeed, there are a small but steady number of inquiries each year from members who are keenly interested in obtaining a life membership so as to avoid letting the membership lapse, are prepared to pay a substantial sum to accomplish this, but are not eligible under the current rules for life membership. The new eligibility rules will provide us with a way to respond to many of these inquiries.

There are other benefits as well. At the April 1951 meeting of the Council, the principle was announced that “Members of the Society ought normally to think in terms of their membership and their dues as support for a worthy enterprise in which they have a special interest, with relatively small emphasis on what they receive.” Investing in life membership is a tangible way to show this kind of support of the Society.

Senior faculty who become life members demonstrate their support of the Society to junior faculty. Occasionally, a mathematician has excess funds from a grant, from royalty payments, or from an award. Life membership is one option for investing those funds for the benefit of both the individual and the Society.

None of these motivations is overwhelming, and the proposed rules for life membership are unlikely to increase the number of life members dramatically. But life memberships are good for the Society, and providing a sensible life option is one step in improving membership overall.

Motivation for the specific proposal

There are, of course, many ways in which to assess one-time fees for life membership. The only obvious constraint is that the amount collected (nearly) replaces the amount that would otherwise be collected from a member under reasonable assumptions.

The greatest virtue of the current proposal is simplicity: The rules are easy to remember and the program is simple to administer. Simplicity makes the program easy to understand, easy to promote and more likely to succeed.

The simplicity is also likely to create some incentives for some people to become life members. Having two specific thresholds (ages 50 and 60) when life member fees decrease dramatically may cause members to consider life membership at those times. This is a common way to promote interest in programs.

Impact of the life membership option on dues revenue.

Until recent years, the impact of a life membership was hard to predict both for the Society and for the individual. During the 1960s and 70s, dues increased in unpredictable jumps. Determining how to set a one-time fee that corresponded to life-time dues was nearly impossible. In recent years, however, the Society has set out to adjust dues in steady, predictable ways. This makes predicting the financial effect of life membership relatively easy.

Under the current arrangement for life membership, one must be at least age 62 and have been a member for at least 20 years and pay five times ordinary high dues. Consequently, members electing life membership and retiring at age 68 save one year of dues.

Table 1 shows, for each age step, the life dues amount for 2005, the total dues that would be paid by an ordinary high member who remained a member until retiring at age 68, and the value in 2005 of the (presumed) future dues payments until retirement. The figures in Table 1 are based on the following assumptions:

1. Ordinary High dues for 2005 will be \$152 and will increase by \$4 each year thereafter.
2. Life membership is elected in the first year of an age step.
3. The values in Column 5 are based on a discount rate of 5%.

Table 1: Life Membership Dues Amounts

Column 1	Column 2	Column 3	Column 4	Column 5
Age at the start of the membership year	Multiple of Ordinary High Dues	Life Dues Amount as of 2005	Sum of Ord-H dues if paid each year to age 68	Present Value of dues in Column 4
60	Five	\$760	\$1,328	\$1,120
50	Ten	\$1,520	\$3,348	\$2,219
40	Fifteen	\$2,280	\$5,768	\$3,029

The amounts by which the numbers in Column 5 exceed those in Column 3 represent the maximum unfavorable impact on individual dues income for someone that elects life membership at the earliest available time. In some instances the actual amount of foregone dues will be less. But the total impact on the Society's annual dues income will be inconsequential provided the number of individuals electing life membership each year remains small. There could be a certain amount of pent up demand for this option when it first becomes available, but in the steady state, I believe that the number of new life members is likely to be no more than 50 a year, approximately double the current rate. Should the number turn out to be substantially higher, a proposal would be brought forth to adjust the parameters governing dues for life membership to raise those dues to an acceptable level.

Life membership in professional societies is rarely just about charging up front for the presumed future dues payments. For the Society, it is about allowing members the option of making an open statement about their long term commitment to membership in the AMS.

Jim Maxwell
Associate Executive Director
October 23, 2003

From the AMS Bylaws (modified 1998)

Article IX

Dues and Privileges of Members

Section 1. Any applicant shall be admitted to ordinary membership immediately upon election by the Council (Article VIII) and the discharge within sixty days of election of the first annual dues. Dues may be discharged by payment or by remission when the provision of Section 7 of this Article is applicable. The first annual dues shall apply to the year of election, except that any applicant elected after August 15 of any year may elect to have the first annual dues apply to the following year.

Section 2. The annual dues of an ordinary member of the Society shall be established by the Council with the approval of the Trustees. The Council, with the approval of the Trustees, may establish special rates in exceptional cases and for members of an organization with which the Society has a reciprocity agreement.

Section 3. The minimum dues for a contributing member shall be three-halves of the dues of an ordinary member per year. Members may, upon their own initiative, pay larger dues.

Section 4. The minimum dues of an institutional member shall depend on the scholarly activity of that member. The formula for computing these dues shall be established from time to time by the Council, subject to approval by the Board of Trustees. Institutions may pay larger dues than the computed AMS Bylaws minimum.

Section 5. The privileges of an institutional member shall depend on its dues in a manner to be determined by the Council, subject to approval by the Board of Trustees. These privileges shall be in terms of Society publications to be received by the institution and of the number of persons it may nominate for ordinary membership in the Society.

Section 6. Dues and privileges of corporate members of the Society shall be established by the Council subject to approval by the Board of Trustees.

Section 7. The dues of an ordinary member of the Society shall be remitted for any years during which that member is the nominee of an institutional member.

Section 8. After retirement from active service on account of age or on account of long-term disability, any ordinary or contributing member who is not in arrears of dues and with membership extending over at least twenty years may, by giving proper notification to the secretary, have dues remitted. Such a member shall receive the *Notices* and may request to receive *Bulletin* as privileges of membership during each year until membership ends.

Section 9. An ordinary or contributing member shall receive the *Notices* and *Bulletin* as privileges of membership during each year for which dues have been discharged.

Section 10. The annual dues of ordinary, contributing, and corporate members shall be due by January 1 of the year to which they apply. The Society shall submit bills for dues. If the annual dues of any member remain undischarged beyond what the Board of Trustees deems to be a reasonable time, the name of that member shall be removed from the list of members after due notice. A member wishing to discontinue membership at any time shall submit a resignation in writing to the Society.

Section 11. Any person who has attained the age of 62 and has been a member for at least twenty years may become a life member by making a single payment equal to five times the dues of an ordinary member for the coming year. Insofar as there is more than one level of dues for ordinary membership, it is the highest such dues that shall be used in the calculation, with the exception for members by reciprocity noted in the following paragraph. A life member is subsequently relieved of the obligation of paying dues. The status and privileges are those of ordinary members. A member of the Society by reciprocity who has reached the age of 62, has been a member for at least 20 years, has been a member by reciprocity for at least 15 of those 20 years and asserts the intention of continuing to be a member by reciprocity may purchase a life membership by a one-time payment of a special rate established by the Council, with the approval of the Trustees.

International Council for Industrial and Applied Mathematics (ICIAM)

The International Council for Industrial and Applied Mathematics (ICIAM) is an umbrella organization whose members consist of mathematics societies whose primary purpose is to promote the interests of industrial and applied mathematics. There are currently 17 member societies, one of which is the *Society for Industrial and Applied Mathematics* (SIAM).

One of the key ways in which ICIAM promotes applied mathematics is by holding a Congress every four years, in the year immediately following the International Congress of Mathematicians. There have been five such congresses so far, with the most recent one held in Sydney, Australia, in July 2003. The AMS was an exhibitor at that Congress, and was represented by the Executive Director and Deputy Publisher.

In addition to the quadrennial congresses, however, the Council meets once each year to consider ways in which the interests of mathematics can be fostered, as well as matters of common concern among the various member societies.

In 1999, ICIAM created a new membership category of "Associate Member" in order to allow mathematics societies whose focus was not primarily on applied mathematics to join. Associate members currently include the European Mathematical Society, the London Mathematical Society, and the Swiss Mathematical Society. The Canadian Mathematical Society recently requested (and was granted) associate membership.

The AMS has an opportunity to join ICIAM as an Associate Member, along with these other societies. In recent years, the AMS has been represented at most of the annual SIAM meetings, partly as a statement about the value accorded to industrial and applied mathematics (and mathematicians). The AMS exhibited at the recent ICIAM meeting in Sydney for similar reasons, in addition to the obvious benefit in promoting our publication program. Becoming an associate member would be a next logical step.

The costs of membership are relatively modest. Dues would be \$500 per year. In addition, the Society would bear the cost of sending a representative to the annual meeting of the Council. Presumably the President (or President's representative) would be that representative, and the cost would be part of the normal travel budget.

The AMS represents research mathematics of all kinds and has many members in applied fields as well as industry. It therefore seems appropriate to become an associate member in an organization that shares common goals — fostering the interests of mathematics, whether pure or applied.

John Ewing



Aims of the Council

ICIAM is an abbreviation of 'International Council for Industrial and Applied Mathematics'. It was previously called CICIAM as an abbreviation of 'Committee for International Conferences on Industrial and Applied Mathematics'. These conferences have been arranged so far four times -- Paris (1986), Washington DC (1991), Hamburg (1995) and Edinburgh (1999).

In 1999, the name was changed from CICIAM to ICIAM in order to emphasize that the aims of the organization in the future are wider:

- to promote industrial and applied mathematics globally;
- to promote interactions between member societies;
- to promote the goals of these societies;
- and to coordinate planning for periodic international meetings on industrial and applied mathematics.

Member Societies

- [ANZIAM](#)
Australia and New Zealand Industrial and Applied Mathematics
- [CAIMS-SCMAI](#)
Canadian Applied and Industrial Mathematics
[Société Canadienne](#) de Mathématiques Appliquées et Industrielles
- [CSIAM](#)
Chinese Society for Industrial and Applied Mathematics
- [ECMI](#)
European Consortium for Mathematics in Industry
- [ESMTB](#)
European Society for Mathematical and Theoretical Biology (ESMTB)
- [GAMM](#)
Gesellschaft für Angewandte Mathematik und Mechanik
- [IMA](#)
The Institute of Mathematics and its Applications
- [ISIAM](#)

- Indian Society of Industrial and Applied Mathematics
 - [JSIAM](#)
The Japan Society for Industrial and Applied Mathematics ([English version](#))
 - [KSIAM](#)
The Korea Society for Industrial and Applied Mathematics
 - **NORTIM**
Nordiska föreningen för Tillämpad och Industriell Matematik
 - [SBMAC](#)
Sociedade Brasileira de Matemática Aplicada e Computacional
 - [SEMA](#)
Sociedad Española de Matemática Aplicada
 - [SIMAI](#)
Società Italiana di Matematica Applicata e Industriale
 - [SMAI](#)
Société de Mathématiques Appliquées et Industrielles
 - [SIAM](#)
Society for Industrial and Applied Mathematics
 - **VSAM**
Vietnamese Society for Applications of Mathematics
-

Associates

- [EMS](#)
European Mathematical Society
 - [LMS](#)
London Mathematical Society
 - [SMG/SMS](#)
Swiss Mathematical Society
-

Officers

ICIAM has four officers, the President, the Past-President or the President-Elect, the Treasurer and the Secretary. ICIAM has no individual members.

Societies can be members in two categories:

1. full members are those which are dedicated primarily into applied and/or industrial mathematics;
2. associated members may also have other interests but still significant activity in applied and/or industrial mathematics.

Any society wishing to join ICIAM should contact the President.

The current officers are:

President

Prof. Olavi Nevanlinna, ([Finland](#))
Olavi.Nevanlinna@hut.fi

President-Elect

Prof. Ian Sloan ([New South Wales](#))
I.Sloan@unsw.edu.au

Treasurer

Prof. Robert O'Malley, ([USA](#))
omalley@amath.washington.edu

Secretary

Prof Alain Damlamian, ([France](#))
damla@univ-paris12.fr

International Council for Industrial and Applied Mathematics



President: Professor Olavi Nevanlinna



Mathematics is a wonderful and unique blend of disparate concepts: depth, playfulness, beauty and utility. The applications of mathematics are far-reaching and often surprising, and mathematics is essential for the fabric of modern technological society. In a personal sense, it is highly rewarding to work on these new applications of mathematics.

The International Council for Industrial and Applied Mathematics wants to bring together all people in this field. Be part of this by joining one of our member societies. Or urge your society to join ICIAM if it does not already belong.

Every four years, the International Council convenes a major congress - the 'International Congress on Industrial and Applied Mathematics'. Previous meetings were held in Paris (1987), Washington (1991), Hamburg ([1995](#)) and Edinburgh ([1999](#)). The Fifth International Congress on Industrial and Applied Mathematics will be held in Sydney in [2003](#). *I urge you to attend.*

Professor Nevanlinna is Chairman of the [Institute of Mathematics](#), [Helsinki University of Technology](#), Finland.

ICIAM Bylaws

1. PURPOSE

1.1 The organization shall be called ICIAM as an abbreviation of "International Council for Industrial and Applied Mathematics". It was previously called CICIAM as an abbreviation of "Committee for International Conferences on Industrial and Applied Mathematics".

1.2 The purpose of the organization is to promote industrial and applied mathematics internationally, to promote interactions between the member societies, to promote the goals of these societies, and to coordinate planning for periodic international meetings on industrial and applied mathematics.

2. BOARD

2.1 The ICIAM Board consists of the representatives designated by the member societies and the President, the Past-President or the President-Elect, respectively, who may or may not be designated representatives.

2.2 The Program* Committee Chair and the leader of the next International Congress on Industrial and Applied Mathematics are ex-officio members of the Board.

2.3 A Voting Member of the ICIAM Board is a representative of a medium or large full member society, or that of a large associated member society, which has paid its current dues to ICIAM. The President, even if not a voting member, will still have a tie breaking vote.

3. MEMBERSHIP

3.1 Application for membership is open to any society which is dedicated primarily or significantly to applied and/or industrial mathematics, supports the purposes of ICIAM and admits individual members without discrimination.

3.2 There will be three levels of full membership for societies primarily dedicated to applied and/or industrial mathematics:

(a) Small societies. Such societies must have at least 10 members. Small societies may send an observer to Board meetings.

(b) Medium societies. Such societies must have at least 100 members. Medium societies may send one voting representative to Board meetings.

(c) Large societies. Such societies must have at least 1000 members. Large societies may send two voting representatives to Board meetings.

3.3 There will be two levels of associate membership for societies which are significantly, but not primarily, dedicated to applied and/or industrial mathematics. The following guidelines will be applied:

(a) Small associated societies. Such societies have less than 500 members dedicated to applied and/or industrial mathematics and less than a total number of 1000 members.

Such societies may send an observer to the Board meetings, and otherwise have the same rights and duties as the small full member societies.

(b) Large associated societies. Such societies have at least 500 members dedicated to applied and/or industrial mathematics or a total number of at least 1000 members. Such societies may send one voting representative to the Board meetings, and otherwise have the same rights and duties as the medium full member societies.

3.4 Any qualified society may apply for membership by writing to the President of ICIAM. The applying society should provide information on its membership and submit a copy of its bylaws. The society should also indicate for which kind and level of membership it wishes to apply. Acceptance of the application will be determined by a majority of voting members of the Board.

3.5 At any time ICIAM may review the qualifications of any member society for continued membership.

4. OFFICERS

4.1 The Officers shall consist of a President, a Secretary, a Treasurer, and the Past President for two years after his/her presidency who will then be replaced by a President Elect for the next two years; the President Elect will automatically become President after this two years term.

4.2 The Officers are elected by the Board. In particular, the President Elect should be elected by a secret ballot by a majority of votes.

4.3 The President directs the activities of the organization; he/she is the official representative of the organization and should take an active role in promoting the goals of ICIAM internationally. >From time to time the President and/or the Board may appoint an ad hoc committee whose members need not be Board members. If the President is prevented from fulfilling his/her duties, the Past President or the President Elect, respectively, shall temporarily take his/her place.

4.4 The Secretary maintains the records of the organization in cooperation with the President and in accordance with the decisions made by the Board.

4.5 The Treasurer is responsible for the funds of the organization and annually presents a report on these funds to the Board.

4.6 The Board annually appoints one cash auditor who, for a period of one year, audits the accounts and gives a report to the Board.

5. DUES AND FUNDS

5.1 The Board may set the membership dues at any time by majority vote. Normally, the dues of the medium societies are half of those of the large societies, and the dues of the small societies half of those of the medium societies. The dues of the large associate societies equal those of the medium societies, and the dues of the small associate societies those of the small societies.

5.2 All funds owned by ICIAM will be held by one or more of the member societies. They may only be disbursed with the approval of the ICIAM President and Treasurer.

6. ACTIVITIES

6.1 International Congresses on Industrial and Applied Mathematics (ICIAM meetings) will be held on a quadrennial schedule in years equal to $3 \pmod{4}$.

6.1.1 The Board will select a host organization and site for future ICIAM meetings based on proposals made in person to the Board by host organizations. The Board will select a site at least six years prior to the meeting.

6.1.2 The selected host society will recommend leaders of the ICIAM meeting and a Program* Chair to the Board. The appointments must be approved by the Board.

6.1.3 The Board, in consultation with the Program* Chair, will appoint members of the Program* committee to provide intellectual and geographical balance.

6.2 The Board will meet at least annually to conduct its business.

6.3 The Board may choose to sponsor other activities consistent with its purposes, including, but not limited to: awards at international meetings, additional international meetings on narrower topic areas, informal focus groups in areas of industrial and applied mathematics, and publications which foster its purposes.

7. BYLAW AMENDMENTS

7.1 Prior to any bylaw amendment, the proposed amendments must be sent to the senior officer of each member society at least two months in advance of any action. The bylaws may then be amended by a 2/3 majority of all voting members. The vote can be taken by mail ballot or at a Board meeting. The change will only become effective three months after the changed bylaws, along with a list of the votes of all Board members, has been provided to member societies and there are no objections.

Approved by CICIAM July 10, 1999

CoProf Proposal for a New AMS Award

The idea of a prize for outstanding achievement by a mathematics department had been discussed at the September 2002 CoProf meeting. At that time, the committee was unable to reach consensus on the wording of the specific proposal to put forward. A revised proposal was distributed and CoProf conducted an email dialog. While issues had been identified and thoughtful comments made, it became clear that a resolution would not be made via email and the item was slated for further discussion.

At its September 13, 2003 meeting CoProf reviewed some alternate phrasing for the proposed prize drafted by President Eisenbud. CoProf agreed to form a subcommittee consisting of David Eisenbud (Chair), Bob Daverman and Walter Craig to elaborate upon and refine the proposal for a Prize for Outstanding Achievement by a mathematics department. The refined version emphasizes recognizing departments that are doing something innovative that can be copied by other institutions. Final wording of the proposal approved by CoProf appears below.

Award for Outstanding Achievement by a Mathematics Department

The Award for Outstanding Achievement by a Mathematics Department recognizes a department which has distinguished itself by undertaking an unusual or particularly effective program of value to the mathematics community, internally or in relation to the rest of society. Examples might include a department that runs a notable minority outreach program, a department that has instituted an unusually effective industrial mathematics internship program, a department that has promoted mathematics so successfully that a large fraction of its university's undergraduate population majors in mathematics, or a department that has made some form of innovation in its research support to faculty and/or graduate students, or which has created a special and innovative environment for some aspect of mathematics research.

Prize Amount: \$1200

(Coffee and doughnuts once a week for a departmental tea or seminar.
30 weeks x \$40 per week = \$1200.)

Frequency: Once a year.

Eligibility: Departments of the mathematical sciences in North America that offer at least a bachelors degree in mathematics.

Nomination process: A letter of nomination may be submitted by one or more individuals. Nomination of the writer's own institution is permitted. The letter should describe the specific program(s) for which the department is being nominated as well as the achievements that make the program(s) an outstanding success, and may include any ancillary documents which support the success of the program(s). The letter should not

exceed two pages, with supporting documentation not to exceed an additional three pages.

Selection process. The selection committee shall consist of five members, appointed for three year terms. It should be broadly constituted, involving individuals drawn from various areas of the mathematical profession, such as a person working outside academia, one having experience with educational issues, or one from a department devoted solely to undergraduate mathematics. In addition, the committee should include at least one mathematician with administrative experience (e.g., a current or recent department chair).

In considering a department's achievements, the committee should seek to recognize achievement that 1) came about by systematic, reproducible changes in programs that might be implemented by others, and/or 2) may have value outside the mathematical community. The committee should keep in mind the full range of departments that make up the mathematics education community -- doctoral-granting, master's-granting, and bachelor's-granting departments --- and should seek to recognize outstanding departmental programs in all these arenas, over time.

Deadlines: Nominations due by April 1 of the year preceding the annual meeting at which the award is to be presented. The selection committee should make its selection known to the Secretary by October 1.

Jim Maxwell
Associate Executive Directo
November 4, 2003

AMS Copyright Policy

The American Mathematical Society has a 'progressive' copyright policy, which was put in place about ten years ago.

Most people think that the 'progressive' part of our policy deals with transfer of copyright: The AMS does not require authors to transfer copyright to the Society, instead allowing authors to give the Society a license to publish if they choose. But the truly progressive part of the Society's policy is something else: The AMS gives authors (and others) broad rights to use the material for scholarly purposes. Section 4 of the copyright agreement reads in part:

The Work may be reproduced by any means for educational and scientific purposes by the Author(s) or by others without fee or permission with the exception of reproduction by services that collect fees for delivery of documents. The Author(s) may use part or all of this Work or its image in any future works of his/her (their) own.

Allowing authors to keep the copyright gave the AMS a reputation as radical; giving them the right to use their articles for many purposes, almost without restriction, actually *was* radical.

Much has changed in scholarly publishing during the past 10 years. And for many reasons, this is a good time to review the Society's copyright policy for journals.

History of AMS Policy

The history of our copyright policy begins with controversy. The movement to modify the AMS copyright policy had its roots in 1989, when several mathematicians objected to transferring copyright to the AMS, which at the time was required for publication. The argument was simple and clear: Demanding transfer of copyright was unnecessary when a simple license to publish would suffice.

The AMS responded cautiously and slowly. The copyright form was changed, although not dramatically. The AMS borrowed ideas from the American Physical Society (perhaps infringing the copyright on their copyright agreement). The AMS staff consulted with publication attorneys. Meanwhile, publishing 'experts' debated copyright and saw disaster looming if changes were made to time-honored traditions. It was an odd time. Elsevier was held up as a model for a liberal copyright policy (since modified). The AMS and many other society publishers were seen as conservative.

By the April 1993 Council meeting, the Board of Trustees had appointed a special committee to study the copyright issue (because it had financial implications as well as scientific). In the meantime, the five policy committees were formed during 1993, which included the Committee on Publications. Those committees started to function during 1993, and CPub naturally took on the copyright issue. The Chair appointed a subcommittee (Jaco and Lieb) to make recommendations. Those recommendations came to the May 1994 ECBT meeting, and

subsequently to the August 1994 Council. They were approved, with minor modification, by both.

The final policy for journals was simple and straightforward

**AMS Copyright Policy
(for journals, proceedings, and collections)**

- AMS desires that authors transfer copyright but permits authors to hold copyright in exchange for broad rights (consent) to publish,
- AMS will allow a flexible range of reproduction, including inclusions of AMS published articles in publications of other publishers without permission or fees and electronic distribution over internet as long as it is not part of a document delivery service, and
- AMS will provide 50 free off-prints per article, a copy of an AMS published book, if the article appears in the book, and an electronic copy of the production files.

There was a corresponding statement for books, but it was less clear:

- At contract signing the AMS agrees to provisionally publish the work as a book,
- AMS desires that authors transfer copyright but permits authors to hold copyright in exchange for broad rights (consent) to publish; however, the author contracts not to use essentially the same material in any competing publication for a period of time that includes a period where there may be risk to the AMS financial investment,
- AMS will negotiate a royalty, will negotiate that a certain number of copies of the book go to the author, gratis, and will sell unlimited numbers of the book to the author, for personal use, at the member discount rate.

After agreement was reached on policy, legal counsel for the Society drafted a Consent to Publish form, which was not used. The chair of the Committee on Publications asked that the same two-person subcommittee (Jaco and Lieb) recommend a form for approval to the whole Committee. It was reported at the May 1995 ECBT meeting that the Committee on Publications had approved the Consent to Publish form, which is included as Appendix 1.

Copyright for Books

Why don't authors sign a copyright agreement for monographs? They do. The copyright terms, along with details about what rights fall to the publisher and author(s), are spelled out in the contract, which is negotiated with all authors. Occasionally, authors keep the copyright, giving the AMS an exclusive license to publish the work (which may expire after some years.) Copyright for monographs is therefore governed by contract law, and in many ways is far simpler to administer.

In the ensuing 8 years, only a small number of authors have kept the copyright for their articles (103 out of 7465, or 1.4%). But many authors have benefited from the right to use their articles for scholarly purposes—posting on websites, circulating articles freely, and incorporating the material in subsequent publications. Disaster did not strike the Society's journals, and the progressive policy on copyright brought the Society much goodwill. It was a good policy.

Nonetheless, there are problems with the Society's implementation of its copyright policy, and those problems should be fixed.

Original Motivations for Reforming Copyright

When scholars debated copyright a decade ago, those who debated had a variety of motivations and goals. Some reformers foresaw the coming revolution in scholarly communication and wanted to be certain authors had the ability to use their articles in suitable ways. They wanted to expand the rights of authors (and other scholars) in copyright agreements. Other reformers, however, viewed publishers as inherently unscrupulous and unreliable. They wanted to limit the rights of publishers in order to prevent future abuses. Both groups promoted the idea of author-held copyright.

Most of the arguments against reform focused on the effects that changed agreements would have on journals and scholars today (just as most of the arguments *for* reform extolled the benefits to scholars today). A few conservatives, however, worried about the future. They wondered what scholarly communication would look like many years in the future if all authors held the copyright to their articles. Where would one go to obtain permission to use a particular article fifty years in the future? How could anyone compile collections? How would a publisher sell the rights to journals to someone else in order to keep back volumes in print?

A decade ago, these concerns were not taken seriously. Reformers who cared mainly about author rights viewed them as unimportant. (Who would bother to ask authors for permission anyway? Who would care?) Reformers who didn't trust publishers saw the inability of publishers to make use of journal articles in the future as a benefit. There seems to have been little response to these hypothetical problems, and in particular they were not addressed when the AMS implemented its copyright policy (by creating a new Consent to Publish agreement).

New Reasons to Address Old Concerns

Recent projects to digitize the past literature have changed all this. The projects have shown that the concerns about author-held copyright, and how it might affect scholars many decades in the future, are not hypothetical at all. The digitization projects have shown us that copyright may be an enormous problem for scholarly publishing in the future.

In much of Europe, these projects face a copyright problem because the law is intertwined with the notion of author rights—rights that are often inalienable (can't be transferred) and/or perpetual. In many European countries, even when copyright resides with the publisher, one is expected to obtain permission from the author (or the author's heirs) before updating any work, and that includes digitization. One has to obtain permission whenever a work is changed (which may include something as simple as adding links to the references in an article.) Digitizing an entire run of a journal may therefore require contacting tens of thousands of authors or their heirs, usually many decades after articles were written. This may be an insurmountable obstacle to digitization projects (although most current projects are experimenting with ways to circumvent or ignore the problem).

American copyright law makes things simpler, at least in principle. Since authors can transfer the copyright to the publisher, it is the *publisher* who most often holds all copyrights for the material in a journal. When someone wants to digitize, migrate, or update the material, only the publisher has to give permission. For example, when all four AMS primary journals went online at JSTOR in 1995, the Society could unambiguously give JSTOR permission to do the work. (For the

material prior to 1991, the Society held all copyrights.) Under American copyright law, the publisher can guarantee that an entire journal can be updated, migrated, or archived.

The AMS progressive copyright policy moves the Society's publications closer to the European model. Suppose that each year, only a few dozen authors keep the copyright for their articles. At the end of 30 years, the Society or some other organization desires to include our journals in some new collection of materials, in some yet unknown format, with some yet unimagined enhancements. We might be faced with the prospect of 50,000 articles, for which the copyrights on 1,000 belong to the authors (or the authors' heirs). Obtaining permission from these 1,000 would be virtually impossible, or at least wildly expensive.

When discussions took place a dozen years ago, the idea of digitizing vast collections of the older literature was not on anyone's mind. The thrust of the effort was to create an environment in which *today's* authors were treated well by *today's* publishers. Now, however, with some experience, we recognize that we should be thinking about tomorrow's scholars as well as today's.

Fixing the Problem

We should begin with the observation that our copyright policy is fundamentally sound; it is the implementation that is flawed. We can make very minor changes to the policy in order to create a better Consent to Publish agreement. The rationale for these changes follows.

When the author retains the copyright, section 6 gives the Society a license to publish the material:

In this case the Author(s) nevertheless gives the Publisher unlimited rights to publish and distribute the Work in any form or and to translate (or allow others to translate) the Work wholly or in part throughout the World and to accept payment for this.

This is an extremely weak license, with two major omissions. First, it does not clearly give the Society the ability to publish the material in new formats in the future—formats that may be completely unknown at the moment. Second, it restricts publication to the Society alone, without mentioning third parties (for example, entities such as JSTOR). If the Society wanted to use another organization to archive our journals in the future, our hands would be tied.

We can repair this license by making it suitably broad:

In this case the Author(s) nevertheless gives the Publisher unlimited rights throughout the world for all terms of copyright: (i) to publish and distribute the Work in any form and in all media now known or hereafter discovered, (ii) to translate the Work and exercise all rights in all media in the resulting translations, (iii) to transfer or sublicense the foregoing rights in whole or in part to third parties, and (iv) to accept and retain payment for these.

This wording (provided by our legal counsel) is designed to protect the AMS in the future, when it tries to update or migrate the work.

It is possible that some copyright reformers will view the above license as overly broad. The AMS can give articles to a JSTOR-like organization in the future, but it also can give them (or sell them!) to Elsevier. These concerns can be partially mitigated by adding one additional feature to our copyright policy, allowing authors to dedicate their journal articles to the public domain after 28 years. This may reassure authors who worry that the Society will abuse its control of the material: An article in the public domain is, after all, available to everyone.

Finally, when the copyright policy was formulated, it was in response to a mandate from the Council for the Society to be author-friendly throughout its publication program. The stipulation that every author receive 50 free reprints was a response to that mandate. Free reprints, however, have little connection with copyright. It therefore seems desirable to remove mention of reprints from the policy statement. There are no plans to change the Society's policy about reprints at the present time. It is likely, however, that at some future time the Society will want to change its reprint policy in response to a changing publication environment.

Here then are the old and new versions of the copyright policy.

OLD VERSION
AMS Copyright Policy
(for journals, proceedings, and collections)

- AMS desires that authors transfer copyright but permits authors to hold copyright in exchange for broad rights (consent) to publish,
- AMS will allow a flexible range of reproduction, including inclusions of AMS published articles in publications of other publishers without permission or fees and electronic distribution over internet as long as it is not part of a document delivery service, and
- AMS will provide 50 free off-prints per article, a copy of an AMS published book, if the article appears in the book, and an electronic copy of the production files.

RECOMMENDED NEW VERSION
AMS Copyright Policy
(for journals, proceedings, and collections)

- AMS desires that authors transfer copyright but permits authors to hold copyright in exchange for broad rights given to the AMS,
- AMS will allow a flexible range of reproduction, including inclusions of AMS published articles in publications of other publishers without permission or fees and electronic distribution over internet as long as it is not part of a document delivery service,
- AMS will at the time of publication permit an author to dedicate an article to the public domain 28 years after the date of publication.

Final Comments about Process

At the time, when the Committee on Publications was first created, it was exploring its proper role in the Society's affairs. Its initial charge was unclear about the extent of the Committee's involvement in the day-to-day operations of the publication program. Subsequently, the charge was revised in order to clarify the Committee's role in setting policy rather than implementing it.

This suggests a clearer, more coherent process for dealing with copyright issues, both now and in the future. The Committee on Publications (along with the Council and Board) has full responsibility for determining the copyright policies of the American Mathematical Society. It should exercise that responsibility by creating clear policies, and reviewing them periodically.

The staff, however, has the responsibility for implementing those policies—as it does for all policies of the Society. Designing a consent agreement, updating it, and occasionally modifying it to conform to changes in the environment (or the law) should be done by the staff. The Society can ensure that the implementation conforms to policy by periodic review, as it does for many other activities of the Society.

John Ewing

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LONDON T. CLAY PROFESSOR OF MATHEMATICS AND THEORETICAL SCIENCE

October 21, 2003

Professor Robert Daverman
Department of Mathematics
University of Tennessee
Knoxville, TN 37996-1330

Dear Bob,

I write to report on my activity as AMS representative in Budapest to celebrate the 100th anniversary of the birth of John von Neumann. I officially represented AMS on three occasions, and in addition presented a mathematical lecture at the meeting.

These events celebrating John von Neumann's birth came as the culmination of an entire year dedicated to this Hungarian genius. Three overlapping conferences took place at the Hungarian Academy of Sciences, with a common program on Wednesday morning, October 15. The subjects of the scientific meetings were: scientific computation and dynamical systems; computers and computer science; and operator theory and mathematical physics, respectively.

President Ferenc Mádl of Hungary attended the entire Wednesday morning common session. I spoke there for 10 minutes. My point was that von Neumann, who lived half his life in the United States, was the only modern scientist whose work engendered both Nobel Prizes and Field's Medals. Thus I claimed that one could make the case that John von Neumann's influence on science, technology, and society was greater than any other mathematician in the 20th century.

I read excerpts from the letters of greetings by David Eisenbud, President of AMS and by Bruce Alberts, President of NAS, and presented the originals of these letters to Szilveszter Vizi, President of the Hungarian Academy of Sciences.

At noontime on October 15, I represented the American Mathematical Society at the dedication of a holographic portrait of John von Neumann, which stands prominently in the lobby of the Hungarian Ministry of Information Technology and Communication. The Minister presented the first John von Neumann Awards to Marina von Neumann Whitman and to Charles Simonyi. On this occasion, the guests were also given a tour of the exhibit on the history of the digital computer by the president of the computer society Gyözö Kovács.

The main AMS event took place the next day at noon, on Thursday, October 16. This was the dedication of a large stone plaque on the birth home of John von Neumann, sponsored jointly by the Bolyai Mathematical Society (Hungarian Mathematical Society) and the American Mathematical Society. The day was brisk but beautiful. The von Neumann home is on the corner of a busy thoroughfare and a side street; the police closed the latter for the half hour ceremony.

Von Neumann grew up in a wealthy family; his birth-house is an impressive four-story stone building with what I estimate had over 20 rooms. Today, it is divided into a number of apartments. Approximately two blocks away we passed a small plaque on another building: to my surprise, it commemorated the fact that John Kemeny lived in that building as a student, and mentioned his having invented the basic computer language. Approximately 40 persons from the conference delayed their lunch, in order to travel about $\frac{1}{2}$ an hour by subway and by foot, to stand in the cold and attend the dedication. Unfortunately, Marina von Neumann Whitman (John von Neumann's daughter who attended the meetings in Budapest) had a conflicting engagement that day and was unable to attend the dedication.

There were three very short speeches, two in Hungarian, one in English. The event began with Kálmán Kovács, the Minister for Information Technology and Communication. Professor Imre Csiszár, President of the Bolyai Society, attended the dedication, but Professor Denes Petz, organizer of the meeting, gave the official greeting on behalf of the Bolyai Society. I spoke last on behalf of AMS, emphasizing the importance of the public recognition of scientists and mathematicians to inspire a younger generation of students to pursue scientific careers.

I attach three photographs from the Thursday dedication showing Kovacs, Petz, and myself. I hope that you will circulate this material to the EC and BT. It would be very appropriate if the Notices could note this event which received extensive coverage in Budapest both by TV and by the newspapers.

Although the Hungarian President spent his entire Wednesday morning participating in honoring this extraordinary Hungarian/American citizen, our American Ambassador was absent from the Wednesday meeting, and sent his cultural attaché to the dedication of the plaque on Thursday.

Sincerely yours,

Arthur Jaffe

Attachments: Remarks at the October 15 conference opening
Letters from AMS and NAS
Three digital photographs

Copy: John Ewing
David Eisenbud

**Celebrating the Centenary of John von Neumann's Birth
Budapest, 15 October 2003
Arthur Jaffe**

President Mádl, Mr. Chairman, Marina von Neumann Whitman, assembled guests: it is an honor and a pleasure to bring greetings and congratulations on behalf of the *United States National Academy of Sciences*, and of the *American Mathematical Society*, in celebration of the extraordinary figure in history, John von Neumann.

Not only was von Neumann one of the world's greatest mathematical minds, but I would argue that his influence on science, technology, and mankind equals or surpasses that of any other twentieth century mathematician.

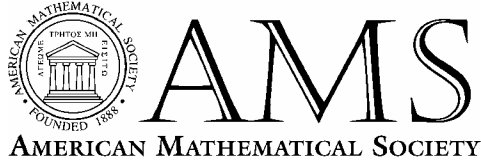
John von Neumann began to work in the United States as a young man of 27. Three years later he became one of the first members of the Institute for Advanced Study, and at age 33 he became an American citizen. In the end he remained for half of his life in the United States. So it is fitting that Hungary share with the United States the heritage of this mathematical giant.

John von Neumann's collected mathematical works comprise six large volumes. They display a breadth and universality of ideas that few scientists achieve. But a prophet before his time is not always appreciated; his intense interest in unfamiliar realms, especially in computing and its applications engendered scepticism among many of his mathematical colleagues, and estrangement from them. And yet von Neumann's work in pure mathematics opened up new theoretical domains thirty years after his death.

John von Neumann's computer architecture remains the basic principle of design of modern computers. He was also fascinated by physics: he laid the mathematical foundations of the theory of measurement and proved the first ergodic theorem, fundamental for statistical physics. His overall scientific achievements range over such diverse fields, from abstract mathematical domains to the most applied, that one often cannot separate his contributions into pure and applied mathematics. He founded the abstract theory of mathematical economics and the theory of games, laying the ground-work for showing that mathematics is at the basis of the behavior of individuals, of nations, and also of global patterns in economy and finance. His work led to a majority of the Nobel Prizes in Economics, including that for mathematician John Nash.

Remarkably, I know of no other modern figure whose work is at the basis of both Nobel prizes and also Fields Medals. von Neumann's discoveries on operators and groups resulted in the development of the modern theory of group representations. His work on operator algebras led to a new theory of algebraic and topological invariants, foreshadowed the modern theory of quantum (or non-commutative) geometry, and in the 1980's opened a new era for modern topology. The Fields Medals for Alain Connes, Vaughan Jones, Edward Witten, and Maxim Kontsevich, as well as a huge part of modern mathematics, form the mathematical heritage of John von Neumann.

So now I read greetings from the American Mathematical Society of which John von Neumann served as 31st President, and from the U.S. National Academy of Sciences. I have the great pleasure to present these letters to Professor Dr. E. Szilveszter Vizi, President of the Hungarian Academy of Sciences, for the Archives of the Academy.



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David Eisenbud, President
Email: president@ams.org

October 16, 2003

To the Hungarian Academy of Sciences
on the commemoration of the 100th anniversary of
John von Neumann's birth

Dear Colleagues,

Perhaps the most extraordinary of all those in an absolutely amazing group of Hungarian mathematicians who came to the United States, von Neumann made contributions to mathematics and science that transcend all nationalities - from the start of modern computing to numerical analysis, fluid mechanics, and game theory.

On behalf of the American Mathematical Society, it is my pleasure to join in spirit this celebration of the 100th anniversary of John von Neumann's birth.

Cordially,

A handwritten signature in cursive script that reads "David Eisenbud".

David Eisenbud



NATIONAL ACADEMY OF SCIENCES

THE NATIONAL ACADEMIES

Office of the President

September 23, 2003

Dr. Arthur Jaffe
27 Lancaster Street
Cambridge, MA 02140

Dear Arthur:

I write, on behalf of the National Academy of Sciences, to offer congratulations on this Congress at the Hungarian Academy of Sciences, celebrating the centennial of John von Neumann's birth. Von Neumann's many contributions to science are too extensive to enumerate in this letter but, if the occasion is appropriate, I would be pleased to have you present a more complete recitation to those assembled at the Congress.

The breadth of von Neumann's interests is illustrated in an autobiographical note he wrote to the Academy in 1956, shortly before his death, in which he listed his "most essential" work as the papers on quantum mechanics in the 1920s, his total work in operator theory in the 1930s, and his version of the ergodic theorem. He is also remembered, of course, for his seminal contributions to game theory and -- as noted in the citation that accompanied the Enrico Fermi award in 1954 -- for his role in developing and building the high-speed computing machinery whose successors continue to revolutionize the way in which science -- and, indeed, virtually all aspects of our life in this new century -- are conducted. His brilliance was recognized by election to the Academy in 1937, as soon as he became a naturalized citizen, at the age of 33.

John von Neumann was also a public citizen, who provided advice to the nation on both technological problems and on matters of science policy, culminating in his appointment to the U.S. Atomic Energy Commission in 1954. Then-president Dwight Eisenhower said, upon learning of von Neumann's death, that he gave generously of his "rare and great gifts of mind." For these gifts we are grateful, and the National Academy of Sciences is pleased to be able to join in this celebration.

Sincerely,

Bruce Alberts
President

THE NATIONAL ACADEMIES
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Allocation of Spendable Income from the Unrestricted Endowment

Income from the unrestricted endowment has been allocated to the following projects or activities in the 2004 budget.

Young Scholars Program (\$50,000): For years, a modest number of mathematically talented high school students have attended summer programs on college and university campuses. The goal of such programs is to attract talented students with an interest in mathematics and to nurture that interest. The "Young Scholars" programs normally last from 4-8 weeks, accept approximately 20-35 students, and are organized by one or two enthusiastic individuals rather than by the institution. The American Mathematical Society decided several years ago to encourage these programs by annually making competitive awards. Using funds from our Program Development Fund, we provided support totaling \$75-85,000 each year for 7-8 programs. We continue to raise an endowment for the program and the Board of Trustees has established a board-designated fund to help support these programs. For 2004, the funds from our unrestricted endowment will supplement the funds available from the endowment and board-designated funds to maintain the previous level of support.

MR Citations project (\$45,000): For the past three years, *Mathematical Reviews* has added a new element to the MR database for certain journals. For these journals, the lists of references, linked to corresponding items in MR, have been added to the database, allowing readers to scan the references and to navigate through the mathematical literature more easily. This also allows MR to compile forward citations for a limited portion of the mathematical literature. As of the end of 2002, about 65 journals were included, and the reference lists extended backwards to 1997. During 2003 and 2004 the number of journals will have been expanded to approximately 100. While the links to MR are added automatically, the reference lists themselves have to be rekeyed. Apex (the same company that rekeyed the older reviews in previous years) has done the work, and most of the expense in this project covers costs incurred in the keyboarding work.

What's Happening in Mathematics (\$25,000): Another volume in this series is scheduled to be published in 2004. The funds allocated from the unrestricted endowment help to defray the cost of the manuscripts (these are prepared on a work-for-hire basis).

Project NExT (\$15,000): Project NExT (New Experiences in Teaching) is a program of the Mathematical Association of America for new or recent Ph.D.s in the mathematical sciences who are interested in improving the teaching and learning of undergraduate mathematics. The AMS sponsored six Project NExT fellows in each of the last three years. The contribution of \$2,500 per fellow pays for the costs of the program itself; travel to the meetings is provided by the fellow's home institution. There is additional money to pay for activities involving the fellows at meetings, in order to connect them more directly to the AMS. This program was reviewed by the Committee on the Profession in 2003 (see Item 2E.3 for further information on this).

STIX Font Project (\$15,000): A major change will take place over the next few years in the way computers deal with fonts and characters. Rather than using one byte to describe a character, limiting each font set to 256 characters, unicode uses two bytes as well as extensions to give a limitless number of characters for a given font. Including characters in the unicode standard is a complicated process, and the AMS has engaged in the process, adding many hundreds of mathematical characters. Six publishers (most of them scientific societies) have contracted to provide a font that will incorporate those characters, making it possible to prepare, print, and view documents with complicated mathematics without installing complex fonts on individual machines. The project should be complete by the end of 2004, with a total cost of from \$250,000-\$300,000. The AMS shares equally in the cost.

AAAS MassMedia Fellowship (\$10,000): The American Association for the Advancement of Science sponsors a program each summer in which graduate students are placed in a media outlet (magazine, newspaper, television or radio station) in order to familiarize them with science reporting. The program is run by AAAS, but the Washington Office of the AMS provides staff support for the Society. Usually, one fellow is supported by the AMS each year. Past fellows have been a resource for the Society at the annual meeting (helping to staff the press room) and as occasional writers for the *Notices*. This is a first-class program that fits well with our increased emphasis on public awareness.

Mathjobs (\$10,000): For the past three years, the AMS has cooperated with Duke University to pilot a job-matching service, originally developed at Duke. While a relatively small number of departments are using the service, it has great potential for the future, especially for departments hiring in postdoctoral positions. Young mathematicians find the service extremely attractive. During 2003, the AMS charged departments for the service in order to gauge their interest (and start towards a self-supporting operation). These allocated funds are used to support the project in its development stage.

*Constance W. Pass
Chief Financial Officer*

AMERICAN MATHEMATICAL SOCIETY

To: Investment Committee
From: Gary Brownell, Connie Pass
Subject: October 10, 2003 Meeting Minutes
Date: October 24, 2003

The Committee is met from 10:15 to 12:30 on Friday, October 10. Attendees will included Committee members John Franks, Linda Keen, Don McClure, and Peter Weinberger, plus staff members Connie Pass, Carol Couto, Linda Burke, John Ewing, and Gary Brownell. Stephen Knightly of Frontier Capital Management attended part of the meeting. The meeting was held on the same day as the ABC meeting, and some ABC members also attended.

- 1. Performance review.** The following portfolio returns (AMS calculated, net) vs. benchmarks for 2000, 2001, 2002, and year-to-date August 2003 were reported and discussed. The red entries are those whose returns have trailed their benchmark by more than .5%.

	2000	2001	2002	Aug 2003
Frontier	(3.1)% vs. (9.1)%	(23.5)% vs. (11.9)%	(26.4)% vs. (22.1)%	20.0% vs. 16.1%
Vanguard 500	(9.1)% vs. (9.1)%	(12.0)% vs. (11.9)%	(22.1)% vs. (22.1)%	15.9% vs. 16.1%
Vanguard Total	(10.5)% vs. (10.9)%	(10.8)% vs. (11.0)%	(20.9)% vs. (20.9)%	18.3% vs. 18.4%
Vanguard REIT	26.4% vs. 26.8%	12.4% vs. 12.8%	3.8% vs. 3.6%	20.1% vs. 20.6%
Cohen & Steers	26.6% vs. 26.4%	5.7% vs. 13.9%	2.8% vs. 3.8%	21.7% vs. 20.6%
Fidelity Intl Ind	(13.7)% vs. (13.9)%	(21.9)% vs. (21.2)%	(16.0)% vs. (15.7)%	15.1% vs. 15.3%
Templeton EM	(32.5)% vs. (31.8)%			
PIMCO	12.0% vs. 11.6%	9.5% vs. 8.4%	10.2% vs. 10.3%	1.9% vs. 1.1%
Total Portfolio	(4.3)% (net)	(9.8)% (net)	(13.3)% (net)	13.6% (net)

The green pages report data back to 1992. They also show three-year and five-year trailing returns.

Stephen Knightly made a detailed report on the AMS account he manages and on Frontier Capital Management's view of the economy, markets, and how these matters are reflected in the AMS account. There was much discussion of these topics.

The Committee members were happy to see positive returns.

- 2. Change in Allocation Policy.** The major item discussed at the meeting was asset allocation. The attached memo was the basis for discussion. The Committee took the following actions:
- They confirmed that asset allocation is a long-term policy and that it should be reviewed periodically, generally following the BT's review of long-term policies covering reserve funds. That is now being done at five-year intervals.
 - They approved the recommendations in the attached Asset Allocation memo, as recommendations to the BT. (The five documents mentioned in the memo are not included as part of the minutes.)

3. **Agenda for May meeting.** The Committee asked that the Total Return Concept and spending rate be included in the May agenda. They observed that this is another long-term policy that ought to be reviewed at the same time as reserve fund policies and asset allocation.

AMERICAN MATHEMATICAL SOCIETY

To: Investment Committee
From: Gary Brownell, Connie Pass
Subject: Asset Allocation
Date: October 1, 2003

This memo discusses asset allocation for the AMS long-term portfolio. Its main conclusions are as the following:

1. The current asset allocation policy should be adjusted as follows:

Asset Class	Old Policy	New Policy
Equity investments (including foreign equities)	70%-85% of total	65%-85% of total
Foreign equities	Up to 10% of total	Up to 10% of total
Alternative investments	Not specified	Up to 10% of total
Fixed income	15%-30% of total	15%-25% of total

2. An Alternative Investment class should be established. Included in this class would be REITs, hedge funds, venture capital, emerging markets, precious metals, etc. The allocation to this class should be up to 10% of the total long-term portfolio. Apart from the current REIT fund holdings, there are no plans for additional alternative investments

If the above allocation policy is accepted, the asset allocation table included in the meeting agenda would appear as follows:

ASSET ALLOCATION		August 03		
		Balance	% of Total	Policy
Equities				
US Equities	Frontier Capital Management	\$7,077,000		
	Vanguard S&P 500 Fund	3,806,000		
	Vanguard Total Mkt Fund	16,512,000		
	Total domestic stock accounts	<u>27,395,000</u>	63.8%	
Foreign Equities	Fidelity International Index	<u>2,843,000</u>		
	Total foreign equity accounts	2,843,000	6.6%	Up to 10%
Total Equities		30,238,000	70.4%	65%-85%
Alternative Investments				
REITs	Vanguard REIT Fund	924,000		
	Cohen & Steers REIT Fund	965,000		
Total Alternative		1,889,000	4.4%	Up to 10%
Fixed Income	PIMCO Total Return	10,818,000	25.2%	15%-25%
TOTAL		\$42,945,000	100.0%	

The recommendations and conclusions herein are those of Brownell and Pass. They are no more valid than those of anyone else at the meeting, and lively discussion of alternatives is hoped for.

The following documents are attached as background:

- AMS Long-Term Investment Policy (available on the Investment Committee web site)
- The Economic Stabilization Fund (revisited) (available on the Investment Committee web site). This is Attachment 25 to the May 2003 ECBT meeting. *This memo should not be circulated outside of the Investment Committee.* In addition to a discussion of what AMS should be doing, it includes a history of reserve policies and discussion of how reserves can be assessed as to their adequacy. This document is included because it is the basis for the BT's decision to review reserve policies at 5-year intervals. Asset allocation should be reviewed following the BT's consideration of reserve policies.
- Total Return Concept (April 5, 1991 memo, on the Investment Committee web site)
- College Endowment Earnings Decline Due to Volatile Stock Market and Weak Economy (available on the Investment Committee web site). This is a NACUBO publication that was distributed for the May 2003 meeting and repeated here.
- Endowment Management (available on the Investment Committee web site). This is a TIAA-CREF Institute Special Report. It, also, was distributed for the May 2003 meeting.

It is not necessary to read all the attachments word for word. Most of them should be familiar territory.

1992 Investment Planning Review

In November of 1992, the Investment Committee met with Cambridge Associates to review their recommendations for investment planning. This review included asset allocation. The asset allocation review comprised four steps:

1. Choose a dominant asset class.
2. Hedge against disasters.
 - Bonds as a hedge against deflation.
 - Real estate and other "hard" asset investments (e.g., oil and gas, asset-based stocks) as a hedge against unanticipated inflation.
3. Enhance returns with investments in alternative assets.
 - Small capitalization stocks.
 - Foreign securities.
 - Venture capital, asset plays, distressed bonds, etc.
4. Document the long-term asset allocation policy.

As a result of the discussion, AMS adopted the following asset allocation policies:

- The dominant class will be equities, as characterized by the S&P500.
- Approximately 20% of investments will be bonds.
- Alternative assets will be considered only when the value of the fund increases significantly.

That basic allocation policy, with slight modification to implement the allocation percentage to bonds as a range, has been followed since. Alternative investments (emerging markets and REITs) were subsequently considered and added.

Why was this particular asset allocation chosen?

Over the long run, stocks have tended to provide the highest returns. The data presented showed that average real (adjusted for inflation) returns of stocks averaged about 6.5% for 5-year and longer periods, vs. about 1.5% for bonds and about .5% for cash. The longer the period used for comparison, the smaller the range of returns for periods of that length. For example, for 15-year periods, the range for stocks was negative 1.6% to +14.6%; for 25-year periods the range was +2.73% to +11.5%. Although nobody was

thrilled about short-term fluctuations in stock returns, the long-term nature of the AMS portfolio made this tolerable. Also, since the Society had adopted the Total Return Concept for determining spendable income for endowment supported activity, the effects of fluctuations in asset values would be dampened, and the averaging conventions used would allow for planning for anticipated reductions in spendable income. Thus, equities became the dominant asset class.

The basic data presented in support of a deflation hedge in the portfolio:

DEFLATION HEDGE PORTFOLIO			
Portfolio Composition	7/1/29 to 6/30/32 Real Return	7/1/32 to 6/30/35 Real Return	6-Year Cumulative Real Return
CPI	-20.3	0.7	-19.7
100% Stocks	-76.0	168.5	-35.6
100% Bonds	42.0	21.8	74.1
70/30 Stocks/Bonds	-40.3	124.5	34.0
60/40 Stocks/Bonds	-28.4	109.8	50.2
100% Cash	10.2	5.0	15.7

POSSIBLE REAL RETURNS GIVEN VARIOUS ASSET ALLOCATION POLICIES		
Stock/Fixed Inc Ratio	Average Annual Compound 1901-1991	Standard Deviation
0/100	2.1	9.8
10/90	2.7	9.9
20/80	3.2	10.3
30/70	3.7	11.0
40/60	4.2	12.0
50/50	4.7	13.2
60/40	5.1	14.6
70/30	5.4	16.1
80/20	5.8	17.6
90/10	6.1	19.3
100/0	6.4	20.9

The Committee at that time balanced the hedging value of bonds and the higher historical returns of stocks, and settled on a 20% allocation to bonds, stated as a range of 15% to 30%.

Apart from the numbers, the Committee, which included both conservative and (mildly) aggressive attitudes toward investing, generally felt comfortable with this allocation plan. (OK, there was one member who called the CFO whenever the market moved more than a few points, but he nevertheless stuck with the allocation.)

What was considered with respect to alternative asset classes?

Cambridge mentioned a number of possible alternative investments, of the sort that large university endowments might use. The included real estate, small capitalization stocks, foreign stocks, venture capital, and oil and gas. The goal of these investments would be to improve long-term returns, to reduce volatility, and to hedge against specific risks (foreign currency exposure, for example). They recommended the following guidelines when choosing alternative investments:

- Improving long-term returns should be the primary objective, and programs should not be initiated unless there is sufficient conviction that they will produce incremental returns over US stocks.
- In most cases, alternative assets are relatively illiquid and require long-term commitments, hence the timing of purchases should be carefully evaluated.
- If a decision is made to invest in an alternative asset, positions large enough to materially affect total fund returns should be established over time.

The Committee looked at historical returns of various investments, their volatility, and their correlation with domestic large cap stocks. Real estate and emerging markets were shown to have relatively low correlations (about .3) with domestic stocks. The long-term return on real estate was actually a little lower than that of stocks with about the same variation; emerging markets was about 2.5 percentage points higher than stocks with about 60% more volatility.

Because of the relatively small size of the AMS portfolio, entry into these alternative markets would most likely have to be through a mutual fund or pooled investment. This made many of these alternatives unlikely. That said, the Committee immediately made a commitment to foreign stocks (note that we do not currently think of this as an “alternative”). Subsequently emerging markets and REITs were tried (REITs have characteristics of both equity and real estate).

A note on real estate – It is important to keep in mind that the Society has a significant investment in real estate. This real estate has not been appraised during the past 10 years or so, but it would be reasonable to think of the value as being the range of \$6,000,000 to \$10,000,000. It is debt free and tax free.

2003 Update

So what’s different in 2003?

All the members of the Investment Committee and the BT have changed since 1992. Most of the support staff have changed (although one has simply aged). The Society’s long-term investment portfolio has grown by about \$30,000,000 (through a combination of additions to the funds and investment returns). The Society’s long-term investments over that period have returned an average in excess of 8% annually (before adjusting for inflation of about 2.5%), with a high of 30.2% and a low of -13.3% (see the monthly performance reports for details).

The Society’s view of the long-term investments has changed somewhat during this period (see “The Economic Stabilization Fund (revisited)”, attached). There have been additions to the true endowments (such as Epsilon and prize funds), some quasi-endowment funds have been set aside to support the Young Scholars Programs, and some quasi-endowment funds have been designated to support operations. Most of the income from the quasi-endowment funds continues to be reinvested. Only a severe financial disaster would result in use of principal, just as in 1992. Of course, it could be argued that a financial disaster is more likely now than it was in 1992. At least, it may feel that way to many. At any rate, the basic policies governing reserve funds were reviewed at the May 2003 BT meeting and left unchanged, with another review scheduled for May 2006.

We have not revisited the historical returns, risk measures, etc., relating to the various asset classes. We do not believe they would have changed significantly as they pertain to asset allocation decisions. And we did not believe that it was necessary to hire an advisor for that purpose. Since investment returns varied both up and down, it’s reasonable to assume that the long-term view has not significantly changed.

Conclusions

Our conclusion is that the basic asset allocation policy established in 1992 is still a valid policy, subject to some small changes.

The dominant asset class should remain stocks. The allocation to bonds as a hedge against deflation should remain at about 20%, as was recommended in 1992. An allocation to alternative investments should be added to the policy, with a range of up to 10% of the total portfolio. Note that no alternative investment needs to be added at this time, as the REIT funds will be in this class. The range of allocation to equities needs to be widened, to reflect the move of the REITs to the alternative investment class; and the range of allocation to bonds should be tightened, but should center on the original 20%.

BOARD OF TRUSTEES STANDING COMMITTEES

Boxes indicate where attention is needed.

AGENDA AND BUDGET COMMITTEE

(as of February 1, 2004)

Robert Daverman (ex officio - Secretary)
David Eisenbud, Chair (ex officio - President)
John Franks (ex officio - Treasurer)
John B. Conway (ex officio - Chair of BT)
Donald McClure (ex officio - Associate Treasurer)

AUDIT COMMITTEE

(as of February 1, 2004)

John B. Conway (ex officio - Chair of BT)
John Franks, Chair (ex officio - Treasurer)
Donald McClure (ex officio - Associate Treasurer)

INVESTMENT COMMITTEE

(as of February 1, 2004)

John Franks, Chair (ex officio - Treasurer)
Linda Keen (2003)
Donald McClure (ex officio - Associate Treasurer)
Peter Weinberger (2003)

LIAISON COMMITTEE

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

(as of February 1, 2004)

John B. Conway (ex officio - Chair of BT)
Robert Daverman (ex officio - Secretary)
David Eisenbud, Chair (ex officio - President)
John Franks (ex officio - Treasurer)

SALARY COMMITTEE

(as of February 1, 2004)

John B. Conway (ex officio - Chair of BT)
John Franks, Chair (ex officio - Treasurer)
Donald McClure (ex officio - Associate Treasurer)

EXECUTIVE COMMITTEE AND BOARD OF TRUSTEES STANDING COMMITTEES

LONG RANGE PLANNING COMMITTEE

(as of February 1, 2004)

John B. Conway (ex officio - Chair of BT)
Walter Craig (ex officio - second-year member of EC)
Robert Daverman (ex officio - Secretary)
David Eisenbud, Chair (ex officio - President)
John Ewing (ex officio - Executive Director)
John Franks (ex officio - Treasurer)
Hugo Rossi (ex officio - third-year member of EC)

ECBT NOMINATING COMMITTEE

(as of February 1, 2004)

Carol Wood, Chair (ex officio - third-year member of BT)
Hugo Rossi (ex officio - third-year member of EC)
Nathaniel Dean (ex officio - Chair of Council Nominating Committee)

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

TRUSTEE ASSIGNMENTS TO POLICY COMMITTEES

COMMITTEE ON EDUCATION

John Conway (2003)

COMMITTEE ON MEETINGS AND CONFERENCES

Jean Taylor (2003)

COMMITTEE ON THE PROFESSION

Carol Wood (2003)

COMMITTEE ON PUBLICATIONS

Linda Keen (2003)

COMMITTEE ON SCIENCE POLICY

Eric Friedlander (2003)

TRUSTEE LIAISON ASSIGNMENTS TO DIVISIONS FOR 2003

Division (Division Director)	Board Liaison
Executive Director (John Ewing)	David Eisenbud
Administration (Gary Brownell) Electronic Products Development Human Resources Management Information Systems Systems and Operations	John Conway John Franks Jean Taylor
Finance (Connie Pass) Distribution Facilities and Purchasing Fiscal Member and Customer Services	John Conway John Franks Don McClure
Mathematical Reviews (Jane Kister) Administration Bibliographic Services Copy Editors Editorial Production Reviewer Services Slavic Languages Systems Support	Don McClure Carol Wood
Meetings and Professional Services (Jim Maxwell) Meetings and Conferences Membership and Programs Public Awareness	Linda Keen Jean Taylor
Publications (John Ewing) Acquisitions Printing Production Promotions Sales Administration	Eric Friedlander Linda Keen
Washington Office (Sam Rankin)	Eric Friedlander Carol Wood

EGTRRA

Third Amendment To The American Mathematical Society Retirement Plan

PREAMBLE

1. Adoption and Effective Date of Amendment. This amendment of the plan is adopted to reflect certain provisions of the Economic Growth and Tax Relief Reconciliation Act of 2001 (EGTRRA). This amendment is intended as good faith compliance with the requirements of EGTRRA and is to be construed in accordance with EGTRRA and guidance issued thereunder. Except as otherwise provided, this amendment shall be effective as of the first day of the first plan year beginning after December 31, 2001.

2. Supersession of Inconsistent Provisions. This amendment shall supersede the provisions of the plan to the extent those provisions are inconsistent with the provisions of this amendment.

SECTION 1. INCREASE IN COMPENSATION LIMIT

The annual compensation of each participant taken into account in determining allocations for any plan year beginning after December 31, 2001, shall not exceed \$200,000, as adjusted for cost-of-living increases in accordance with section 401(a)(17)(B) of the Code. Annual compensation means compensation during the plan year or such other consecutive 12-month period over which compensation is otherwise determined under the plan (the determination period). The cost-of-living adjustment in effect for a calendar year applies to annual compensation for the determination period that begins with or within such calendar year.

SECTION 2. LIMITATIONS ON CONTRIBUTIONS

1. Effective date. This section shall be effective for limitation years beginning after December 31, 2001.

2. Maximum annual addition. Except to the extent permitted under section 5 of this amendment and section 414(v) of the Code, if applicable, the annual addition that may be contributed or allocated to a participant's account under the plan for any limitation year shall not exceed the lesser of:

(a) \$40,000, as adjusted for increases in the cost-of-living under section 415(d) of the Code, or

(b) 100 percent of the participant's compensation, within the meaning of section 415(c)(3) of the Code, for the limitation year.

The compensation limit referred to in (b) shall not apply to any contribution for medical benefits after separation from service (within the meaning of section 401(h) or section 419A(f)(2) of the Code) which is otherwise treated as an annual addition.

SECTION 3. MODIFICATION OF TOP-HEAVY RULES

1. **Effective Date.** This section shall apply for purposes of determining whether the plan is a top-heavy plan under section 416(g) of the Code for plan years beginning after December 31, 2001, and whether the plan satisfies the minimum benefits requirements of section 416(c) of the Code for such years.

2. **Determination of Top-Heavy Status.**

2.1 **Key Employee.** Key employee means any employee or former employee (including any deceased employee) who at any time during the plan year that includes the determination date was an officer of the employer having annual compensation greater than \$130,000 (as adjusted under section 416(i)(1) of the Code for plan years beginning after December 31, 2002), a 5-percent owner of the employer, or a 1-percent owner of the employer having annual compensation of more than \$150,000. For this purpose, annual compensation means compensation within the meaning of section 415(c)(3) of the Code. The determination of who is a key employee will be made in accordance with section 416(i)(1) of the Code and the applicable regulations and other guidance of general applicability issued thereunder.

2.2 **Determination of Present Values and Amounts.** This section 2.2 shall apply for purposes of determining the present values of accrued benefits and the amounts of account balances of employees as of the determination date.

2.2.1 **Distributions During Year Ending on the Determination Date.** The present values of accrued benefits and the amounts of account balances of an employee as of the determination date shall be increased by the distributions made with respect to the employee under the plan and any plan aggregated with the plan under section 416(g)(2) of the Code during the 1-year period ending on the determination date. The preceding sentence shall also apply to distributions under a terminated plan which, had it not been terminated, would have been aggregated with the plan under section 416(g)(2)(A)(i) of the Code. In the case of a distribution made for a reason other than separation from service, death, or disability, this provision shall be applied by substituting 5-year period for 1-year period.

2.2.2 **Employees not Performing Services During Year Ending on the Determination Date.** The accrued benefits and accounts of any individual who has not performed services for the employer during the 1-year period ending on the determination date shall not be taken into account.

3. Minimum Benefits. For purposes of satisfying the minimum benefit requirements of section 416(c)(1) of the Code and the plan, in determining years of service with the employer, any service with the employer shall be disregarded to the extent that such service occurs during a plan year when the plan benefits (within the meaning of section 410(b) of the Code) no key employee or former key employee.

SECTION 4. DIRECT ROLLOVERS OF PLAN DISTRIBUTIONS

1. Effective Date. This section shall apply to distributions made after December 31, 2001.

2. Modification of Definition of Eligible Retirement Plan. For purposes of the direct rollover provisions of the plan, if applicable, an eligible retirement plan shall also mean an annuity contract described in section 403(b) of the Code and an eligible plan under section 457(b) of the Code which is maintained by a state, political subdivision of a state, or any agency or instrumentality of a state or political subdivision of a state and which agrees to separately account for amounts transferred into such plan from this plan. The definition of eligible retirement plan shall also apply in the case of a distribution to a surviving spouse, or to a spouse or former spouse who is the alternate payee under a qualified domestic relation order, as defined in section 414(p) of the Code.

3. Modification of definition of eligible rollover distribution to exclude hardship distributions. For purposes of the direct rollover provisions in the Plan, any amount that is distributed on account of hardship shall not be an eligible rollover distribution and the distributee may not elect to have any portion of such a distribution paid directly to an eligible retirement plan.

4. Modification of Definition of Eligible Rollover Distribution to Include After-Tax Employee Contributions. For purposes of the direct rollover provisions in the plan, if applicable, a portion of a distribution shall not fail to be an eligible rollover distribution merely because the portion consists of after-tax employee contributions which are not includible in gross income. However, such portion may be paid only to an individual retirement account or annuity described in section 408(a) or (b) of the Code, or to a qualified defined contribution plan described in section 401(a) or 403(a) of the Code that agrees to separately account for amounts so transferred, including separately accounting for the portion of such distribution which is includible in gross income and the portion of such distribution which is not so includible.

SECTION 5. SUSPENSION PERIOD FOLLOWING HARDSHIP DISTRIBUTION

A participant who receives a distribution of elective deferrals after December 31, 2001, on account of hardship shall be prohibited from making elective deferrals and employee contributions under this and all other plans of the employer for 6 months after receipt of the distribution.

A participant who receives a distribution of elective deferrals in calendar year 2001 on account of hardship shall be prohibited from making elective deferrals and employee contributions under this and all other plans of the employer for the period specified in the provisions of the plan relating to suspension of elective deferrals that were in effect prior to this amendment.

SECTION 6. DISTRIBUTION UPON SEVERANCE FROM EMPLOYMENT

1. Effective Date. This section shall apply for distributions and severances from employment occurring after December 31, 2001.

2. New distributable event. A participant's elective deferrals, qualified nonelective contributions, qualified matching contributions, and earnings attributable to these contributions shall be distributed on account of the participant's severance from employment. However, such a distribution shall be subject to the other provisions of the plan regarding distributions, other than provisions that require a separation from service before such amounts may be distributed.

SECTION 7. ROLLOVERS FROM OTHER PLANS

Direct Rollovers:

The plan will accept a direct rollover of an eligible rollover distribution from:

-- a qualified plan described in section 401(a) or 403(a) of the Code, including after-tax employee contributions.

-- an eligible plan under section 457(b) of the Code which is maintained by a state, political subdivision of a state, or any agency or instrumentality of a state or political subdivision of a state.

Participant Rollover Contributions from Other Plans:

The plan will accept a participant contribution of an eligible rollover distribution from:

-- a qualified plan described in section 401(a) or 403(a) of the Code.

-- an annuity contract described in section 403(b) of the Code.

-- an eligible plan under section 457(b) of the Code which is maintained by a state, political subdivision of a state, or any agency or instrumentality of a state or political subdivision of a state.

Participant Rollover Contributions from IRAs:

The plan will accept a participant rollover contribution of the portion of a distribution from an individual retirement account or annuity described in section 408(a) or 408(b) of the Code that is eligible to be rolled over and would otherwise be includible in gross income.

Effective Date of Direct Rollover and Participant Rollover Contribution Provisions:

Rollovers From Other Plans, shall be effective for plan years beginning after December 31, 2001.

SECTION 8. PLAN LOANS FOR OWNER-EMPLOYEES AND SHAREHOLDER EMPLOYEES

Effective for plan loans made after December 31, 2001, plan provisions prohibiting loans to any owner-employee or shareholder-employee shall cease to apply.

SECTION 9. REPEAL OF MULTIPLE USE TEST

The multiple use test described in Treasury Regulation section 1.401(m)-2 and section -- of the plan shall not apply for plan years beginning after December 31, 2001.

IN WITNESS WHEREOF, the Institution has caused this Third Amendment to be executed by its duly authorized officer as of the 31st day of December, 2002.

By: _____

Fourth Amendment
To The
American Mathematical Society Retirement Plan

WHEREAS, the American Mathematical Society (the "Institution") has heretofore adopted the American Mathematical Society Retirement Plan (the "Plan") effective January 1, 1989; and

WHEREAS, the Institution reserved the right to amend the Plan from time to time pursuant to Section 9.1 of the Plan; and

WHEREAS, the Institution desires to amend the Plan to adopt new claims procedures pursuant to the Department of Labor regulations, the required minimum distribution model amendment set forth in IRS Revenue Procedure 2002-29, and the new mortality table set forth in IRS Revenue Procedure 2001-62.

NOW THEREFORE, the Plan is amended as set forth below:

1. Effective January 1, 2002, Section 10.6 of the Plan shall be amended in its entirety to read as follows:

"10.6. Claims and Claims Review Procedure.

(a) All claims for benefits under the Plan shall be filed in writing with the Plan Administrator.

(b) If the claim is wholly or partially denied, the Plan Administrator shall furnish the claimant written notice of its decision within ninety (90) days after receipt of the claim by the Plan Administrator. The notice of denial shall set forth in a manner calculated to be understood by the claimant:

(i) The specific reason or reasons for the denial;

(ii) Specific references to pertinent Plan provisions on which the denial is based;

(iii) A description of any additional material or information necessary for the claimant to perfect a claim and an explanation of why such material or information is necessary; and

(iv) An explanation of the Plan's claims review procedure.

(c) If the Plan Administrator determines that an extension of time will be necessary to process the claim, written notice of the extension shall be provided to the claimant prior to the expiration of the ninety-day period. The length of the

extension shall not exceed ninety days.

The extension notice shall specify the circumstances requiring the extension and the anticipated date for which the Plan Administrator wishes to render a decision. The claimant shall have at least forty-five days within which to provide the specific information. If the Plan Administrator files an extension due to a claimant's failure to submit information necessary to decide a claim, the period for making the determination shall be tolled from the date the extension notice is sent to the claimant until the date the claimant responds to the request for the additional information.

(d) Within sixty (60) days after the receipt of a notice of denial, the claimant may file with the Plan Administrator a written request for a full review of the Plan Administrator's decision. The review on appeal shall not afford deference to the initial adverse benefit determination and shall be conducted by the appropriate named fiduciary who is neither the individual who made the adverse benefit determination nor the subordinate of such individual.

The claimant shall have the opportunity to submit written comments, documents, records and other information relating to the claim for benefits. Upon request of the claimant and free of charge, reasonable access to, and copies of, all documents, records and other information relevant to the claim shall be made available to the claimant. The review shall take into account all comments, documents, records and other information submitted without regard to whether such information was submitted or considered in the initial benefit determination.

If the benefit application is denied upon review, the named fiduciary shall provide a written explanation of its adverse determination explaining the specific reason(s) for the adverse determination, specific references to the Plan provisions on which the denial is based, a statement that the claimant is entitled to receive documents relevant to your claim, upon request and free of charge, and a statement describing any voluntary appeal procedures offered by the Plan and the right to receive information about those procedures, and a statement of the claimant's right to bring an action under Section 502(a) of ERISA.

(e) The decision of the review shall be made within a reasonable period of time, and not later than sixty (60) days after the receipt of the request for review, unless special circumstances require an extension of time for processing. If an extension is required, the claimant shall be provided a notice of the extension prior to the expiration of the sixty-day period, of which such notice shall satisfy the requirements outlined in Section 10.6(c) above."

2. The Plan is hereby amended by the adoption of the Internal Revenue Service Model Amendment as set forth below:

“Model Amendment 1

1. Effective Date. This Section shall apply to distributions with annuity starting dates on or after December 31, 2002.

2. Notwithstanding any other Plan position to the contrary, the applicable mortality table used for purposes of adjusting any benefit or limitation under Section 415(b)(2)(B), (C), or (D) of the Internal Revenue Code as set forth in the Plan and the applicable mortality table used for purposes of satisfying the requirements of Section 417(e) of the Internal Revenue Code as set forth in Article VIII of the Plan is the table prescribed in Revenue Ruling 2001-62.”

3. The Plan is hereby amended by the adoption of the Internal Revenue Service Model Amendment as set forth below:

“Model Plan Amendment 2

Article VI. Minimum Distribution Requirements.

Section 1. General Rules

1.1. Effective Date. The provisions of this article will apply for purposes of determining required minimum distributions for calendar years beginning with the 2003 calendar year.

1.2. Precedence. The requirements of this article will take precedence over any inconsistent provisions of the Plan.

1.3. Requirements of Treasury Regulations Incorporated. All distributions required under this article will be determined and made in accordance with the Treasury regulations under section 401(a)(9) of the Internal Revenue Code.

1.4. TEFRA Section 242(b)(2) Elections. Notwithstanding the other provisions of this article, other than section 1.3, distributions may be made under a designation made before January 1, 1984, in accordance with section 242(b)(2) of the Tax Equity and Fiscal Responsibility Act (TEFRA) and the provisions of the plan that relate to section 242(b)(2) of TEFRA.

Section 2. Time and Manner of Distribution.

2.1. Required Beginning Date. The participant's entire interest will be distributed, or begin to be distributed, to the participant no later than the participant's required beginning date.

2.2. Death of Participant Before Distributions Begin. If the participant dies before distributions begin, the participant's entire interest will be distributed, or begin to be distributed, no later than as follows:

(a) If the participant's surviving spouse is the participant's sole designated beneficiary, then, except as provided in the plan, distributions to the surviving spouse will begin by December 31 of the calendar year immediately following the calendar year in which the participant died, or by December 31 of the calendar year in which the participant would have attained age 70½, if later.

(b) If the participant's surviving spouse is not the participant's sole designated beneficiary, then, except as provided in the Plan, distributions to the designated beneficiary will begin by December 31 of the calendar year immediately following the calendar year in which the participant died.

(c) If there is no designated beneficiary as of September 30 of the year following the year of the participant's death, the participant's entire interest will be distributed by December 31 of the calendar year containing the fifth anniversary of the participant's death.

(d) If the participant's surviving spouse is the participant's sole designated beneficiary and the surviving spouse dies after the participant but before distributions to the surviving spouse begin, this section 2.2, other than section 2.2(a), will apply as if the surviving spouse were the participant.

For purposes of this section 2.2 and section 5, distributions are considered to begin on the participant's required beginning date (or, if section 2.2(d) applies, the date distributions are required to begin to the surviving spouse under section 2.2(a)). If annuity payments irrevocably commence to the participant before the participant's required beginning date (or to the participant's surviving spouse before the date distributions are required to begin to the surviving spouse under section 2.2(a)), the date distributions are considered to begin is the date distributions actually commence.

2.2A Election to Allow Participants or Beneficiaries to Elect 5-Year Rule. Participants or beneficiaries may elect on an individual basis whether the 5-year rule or the life expectancy rule in sections 2.2 and 4.2 of Article IX of the plan applies to distributions after the death of a participant who has a designated beneficiary. The election must be made no later than the earlier of September 30 of the calendar year in which distribution would be required to begin under Article VIII of the plan, or by September 30 of the calendar year which contains the fifth anniversary of the participant's (or, if applicable, surviving spouse's) death. If neither the participant nor beneficiary makes an election under this paragraph, distributions will be made in accordance with Article VIII of the plan.

2.3. Form of Distribution. Unless the participant's interest is distributed in the form of an annuity purchased from an insurance company or in a single sum on or before the required beginning date, as of the first distribution calendar year distributions will be made in accordance with sections 3, 4 and 5 of this article. If the participant's interest is distributed in the form of an annuity purchased from an insurance company, distributions thereunder will be made in accordance with the requirements of section 401(a)(9) of the Code and the Treasury regulations. Any part of the participant's interest which is in the form of an individual account described in section 414(k) of the Code will be distributed in a manner satisfying the requirements of section 401(a)(9) of the Code and the Treasury regulations that apply to individual accounts.

Section 3. Determination of Amount to be Distributed Each Year.

3.1. General Annuity Requirements. If the participant's interest is paid in the form of annuity distributions under the plan, payments under the annuity will satisfy the following requirements:

- (a) the annuity distributions will be paid in periodic payments made at intervals not longer than one year;
- (b) the distribution period will be over a life (or lives) or over a period certain not longer than the period described in section 4 or 5;
- (c) once payments have begun over a period certain, the period certain will not be changed even if the period certain is shorter than the maximum permitted;
- (d) payments will either be nonincreasing or increase only as follows:
 - (1) by an annual percentage increase that does not exceed the annual percentage increase in a cost-of-living index that is based on prices of all items and issued by the Bureau of Labor Statistics;
 - (2) to the extent of the reduction in the amount of the participant's payments to provide for a survivor benefit upon death, but only if the beneficiary whose life was being used to determine the distribution period described in section 4 dies or is no longer the participant's beneficiary pursuant to a qualified domestic relations order within the meaning of section 414(p);
 - (3) to provide cash refunds of employee contributions upon the participant's death; or
 - (4) to pay increased benefits that result from a plan amendment.

3.2. Amount Required to be Distributed by Required Beginning Date. The amount that must be distributed on or before the participant's required beginning

date (or, if the participant dies before distributions begin, the date distributions are required to begin under section 2.2(a) or (b)) is the payment that is required for one payment interval. The second payment need not be made until the end of the next payment interval even if that payment interval ends in the next calendar year. Payment intervals are the periods for which payments are received, e.g., bi-monthly, monthly, semi-annually, or annually. All of the participant's benefit accruals as of the last day of the first distribution calendar year will be included in the calculation of the amount of the annuity payments for payment intervals ending on or after the participant's required beginning date.

3.3. Additional Accruals After First Distribution Calendar Year. Any additional benefits accruing to the participant in a calendar year after the first distribution calendar year will be distributed beginning with the first payment interval ending in the calendar year immediately following the calendar year in which such amount accrues.

Section 4. Requirements For Annuity Distributions That Commence During Participant's Lifetime.

4.1. Joint Life Annuities Where the Beneficiary Is Not the Participant's Spouse. If the participant's interest is being distributed in the form of a joint and survivor annuity for the joint lives of the participant and a nonspouse beneficiary, annuity payments to be made on or after the participant's required beginning date to the designated beneficiary after the participant's death must not at any time exceed the applicable percentage of the annuity payment for such period that would have been payable to the participant using the table set forth in Q&A-2 of section 1.401(a)(9)-9 of the Treasury regulations. If the form of distribution combines a joint and survivor annuity for the joint lives of the participant and a nonspouse beneficiary and a period certain annuity, the requirement in the preceding sentence will apply to annuity payments to be made to the designated beneficiary after the expiration of the period certain.

4.2. Period Certain Annuities. Unless the participant's spouse is the sole designated beneficiary and the form of distribution is a period certain and no life annuity, the period certain for an annuity distribution commencing during the participant's lifetime may not exceed the applicable distribution period for the participant under the Uniform Lifetime Table set forth in section 1.401(a)(9)-9 of the Treasury regulations for the calendar year that contains the annuity starting date. If the annuity starting date precedes the year in which the participant reaches age 70, the applicable distribution period for the participant is the distribution period for age 70 under the Uniform Lifetime Table set forth in section 1.401(a)(9)-9 of the Treasury regulations plus the excess of 70 over the age of the participant as of the participant's birthday in the year that contains the annuity starting date. If the participant's spouse is the participant's sole designated beneficiary and the form of distribution is a period certain and no life annuity, the period certain may not exceed the longer of the participant's applicable

distribution period, as determined under this section 4.2, or the joint life and last survivor expectancy of the participant and the participant's spouse as determined under the Joint and Last Survivor Table set forth in section 1.401(a)(9)-9 of the Treasury regulations, using the participant's and spouse's attained ages as of the participant's and spouse's birthdays in the calendar year that contains the annuity starting date.

Section 5. Requirements For Minimum Distributions Where Participant Dies Before Date Distributions Begin.

5.1. Participant Survived by Designated Beneficiary. Except as provided in the Plan, if the participant dies before the date distribution of his or her interest begins and there is a designated beneficiary, the participant's entire interest will be distributed, beginning no later than the time described in section 2.2(a) or (b), over the life of the designated beneficiary or over a period certain not exceeding:

(a) unless the annuity starting date is before the first distribution calendar year, the life expectancy of the designated beneficiary determined using the beneficiary's age as of the beneficiary's birthday in the calendar year immediately following the calendar year of the participant's death; or

(b) if the annuity starting date is before the first distribution calendar year, the life expectancy of the designated beneficiary determined using the beneficiary's age as of the beneficiary's birthday in the calendar year that contains the annuity starting date.

5.2. No Designated Beneficiary. If the participant dies before the date distributions begin and there is no designated beneficiary as of September 30 of the year following the year of the participant's death, distribution of the participant's entire interest will be completed by December 31 of the calendar year containing the fifth anniversary of the participant's death.

5.3. Death of Surviving Spouse Before Distributions to Surviving Spouse Begin. If the participant dies before the date distribution of his or her interest begins, the participant's surviving spouse is the participant's sole designated beneficiary, and the surviving spouse dies before distributions to the surviving spouse begin, this section 5 will apply as if the surviving spouse were the participant, except that the time by which distributions must begin will be determined without regard to section 2.2(a).

Section 6. Definitions.

6.1. Designated beneficiary. The individual who is designated as the beneficiary under section 9.4 of the plan and is the designated beneficiary under section 401(a)(9) of the Internal Revenue Code and section 1.401(a)(9)-1, Q&A-4, of the Treasury regulations.

6.2. Distribution calendar year. A calendar year for which a minimum distribution is required. For distributions beginning before the participant's death, the first distribution calendar year is the calendar year immediately preceding the calendar year which contains the participant's required beginning date. For distributions beginning after the participant's death, the first distribution calendar year is the calendar year in which distributions are required to begin pursuant to section 2.2.

6.3 Life expectancy. Life expectancy as computed by use of the Single Life Table in section 1.401(a)(9)-9 of the Treasury regulations.

6.4. Required beginning date. The date specified in Article VII of the plan.”

IN WITNESS WHEREOF, the Institution has caused this Amendment to be executed by its duly authorized officer as of the 31st day of December, 2002.

By: _____

EGTRRA

First Amendment To The American Mathematical Society Tax-Deferred Annuity Plan

PREAMBLE

1. Adoption and Effective Date of Amendment. This amendment of the plan is adopted to reflect certain provisions of the Economic Growth and Tax Relief Reconciliation Act of 2001 (EGTRRA). This amendment is intended as good faith compliance with the requirements of EGTRRA and is to be construed in accordance with EGTRRA and guidance issued thereunder. Except as otherwise provided, this amendment shall be effective as of the first day of the first plan year beginning after December 31, 2001.

2. Supersession of Inconsistent Provisions. This amendment shall supersede the provisions of the plan to the extent those provisions are inconsistent with the provisions of this amendment.

SECTION 1. INCREASE IN COMPENSATION LIMIT

The annual compensation of each participant taken into account in determining allocations for any plan year beginning after December 31, 2001, shall not exceed \$200,000, as adjusted for cost-of-living increases in accordance with section 401(a)(17)(B) of the Code. Annual compensation means compensation during the plan year or such other consecutive 12-month period over which compensation is otherwise determined under the plan (the determination period). The cost-of-living adjustment in effect for a calendar year applies to annual compensation for the determination period that begins with or within such calendar year.

SECTION 2. LIMITATIONS ON CONTRIBUTIONS

1. Effective date. This section shall be effective for limitation years beginning after December 31, 2001.

2. Maximum annual addition. Except to the extent permitted under section 5 of this amendment and section 414(v) of the Code, if applicable, the annual addition that may be contributed or allocated to a participant's account under the plan for any limitation year shall not exceed the lesser of:

(a) \$40,000, as adjusted for increases in the cost-of-living under section 415(d) of the Code, or

(b) 100 percent of the participant's compensation, within the meaning of section 415(c)(3) of the Code, for the limitation year.

The compensation limit referred to in (b) shall not apply to any contribution for medical benefits after separation from service (within the meaning of section 401(h) or section 419A(f)(2) of the Code) which is otherwise treated as an annual addition.

SECTION 3. MODIFICATION OF TOP-HEAVY RULES

1. **Effective Date.** This section shall apply for purposes of determining whether the plan is a top-heavy plan under section 416(g) of the Code for plan years beginning after December 31, 2001, and whether the plan satisfies the minimum benefits requirements of section 416(c) of the Code for such years.

2. **Determination of Top-Heavy Status.**

2.1 **Key Employee.** Key employee means any employee or former employee (including any deceased employee) who at any time during the plan year that includes the determination date was an officer of the employer having annual compensation greater than \$130,000 (as adjusted under section 416(i)(1) of the Code for plan years beginning after December 31, 2002), a 5-percent owner of the employer, or a 1-percent owner of the employer having annual compensation of more than \$150,000. For this purpose, annual compensation means compensation within the meaning of section 415(c)(3) of the Code. The determination of who is a key employee will be made in accordance with section 416(i)(1) of the Code and the applicable regulations and other guidance of general applicability issued thereunder.

2.2 **Determination of Present Values and Amounts.** This section 2.2 shall apply for purposes of determining the present values of accrued benefits and the amounts of account balances of employees as of the determination date.

2.2.1 **Distributions During Year Ending on the Determination Date.** The present values of accrued benefits and the amounts of account balances of an employee as of the determination date shall be increased by the distributions made with respect to the employee under the plan and any plan aggregated with the plan under section 416(g)(2) of the Code during the 1-year period ending on the determination date. The preceding sentence shall also apply to distributions under a terminated plan which, had it not been terminated, would have been aggregated with the plan under section 416(g)(2)(A)(i) of the Code. In the case of a distribution made for a reason other than separation from service, death, or disability, this provision shall be applied by substituting 5-year period for 1-year period.

2.2.2 **Employees not Performing Services During Year Ending on the Determination Date.** The accrued benefits and accounts of any individual who has not performed services for the employer during the 1-year period ending on the determination date shall not be taken into account.

3. Minimum Benefits. For purposes of satisfying the minimum benefit requirements of section 416(c)(1) of the Code and the plan, in determining years of service with the employer, any service with the employer shall be disregarded to the extent that such service occurs during a plan year when the plan benefits (within the meaning of section 410(b) of the Code) no key employee or former key employee.

SECTION 4. DIRECT ROLLOVERS OF PLAN DISTRIBUTIONS

1. Effective Date. This section shall apply to distributions made after December 31, 2001.

2. Modification of Definition of Eligible Retirement Plan. For purposes of the direct rollover provisions of the plan, if applicable, an eligible retirement plan shall also mean an annuity contract described in section 403(b) of the Code and an eligible plan under section 457(b) of the Code which is maintained by a state, political subdivision of a state, or any agency or instrumentality of a state or political subdivision of a state and which agrees to separately account for amounts transferred into such plan from this plan. The definition of eligible retirement plan shall also apply in the case of a distribution to a surviving spouse, or to a spouse or former spouse who is the alternate payee under a qualified domestic relation order, as defined in section 414(p) of the Code.

3. Modification of definition of eligible rollover distribution to exclude hardship distributions. For purposes of the direct rollover provisions in the Plan, any amount that is distributed on account of hardship shall not be an eligible rollover distribution and the distributee may not elect to have any portion of such a distribution paid directly to an eligible retirement plan.

4. Modification of Definition of Eligible Rollover Distribution to Include After-Tax Employee Contributions. For purposes of the direct rollover provisions in the plan, if applicable, a portion of a distribution shall not fail to be an eligible rollover distribution merely because the portion consists of after-tax employee contributions which are not includible in gross income. However, such portion may be paid only to an individual retirement account or annuity described in section 408(a) or (b) of the Code, or to a qualified defined contribution plan described in section 401(a) or 403(a) of the Code that agrees to separately account for amounts so transferred, including separately accounting for the portion of such distribution which is includible in gross income and the portion of such distribution which is not so includible.

SECTION 5. CATCH-UP CONTRIBUTIONS

All employees who are eligible to make elective deferrals under this plan and who have attained age 50 before the close of the plan year shall be eligible to make catch-up contributions in accordance with, and subject to the limitations of, section 414(v) of the Code. Such catch-up contributions shall not be taken into account for purposes of the provisions of the plan implementing the required limitations of sections 402(g) and 415 of the Code. The plan shall not be treated as failing to satisfy the provisions of the plan

implementing the requirements of section 401(k)(3), 401(k)(11), 401(k)(12), 410(b), or 416 of the Code, as applicable, by reason of the making of such catch-up contributions.

Matching contributions shall not apply to catch-up contributions, if any, made to the Plan.

SECTION 6. SUSPENSION PERIOD FOLLOWING HARDSHIP DISTRIBUTION

A participant who receives a distribution of elective deferrals after December 31, 2001, on account of hardship shall be prohibited from making elective deferrals and employee contributions under this and all other plans of the employer for 6 months after receipt of the distribution.

A participant who receives a distribution of elective deferrals in calendar year 2001 on account of hardship shall be prohibited from making elective deferrals and employee contributions under this and all other plans of the employer for the period specified in the provisions of the plan relating to suspension of elective deferrals that were in effect prior to this amendment.

SECTION 7. DISTRIBUTION UPON SEVERANCE FROM EMPLOYMENT

1. Effective Date. This section shall apply for distributions and severances from employment occurring after December 31, 2001.

2. New distributable event. A participant's elective deferrals, qualified nonelective contributions, qualified matching contributions, and earnings attributable to these contributions shall be distributed on account of the participant's severance from employment. However, such a distribution shall be subject to the other provisions of the plan regarding distributions, other than provisions that require a separation from service before such amounts may be distributed.

SECTION 8. ROLLOVERS FROM OTHER PLANS

Direct Rollovers:

The plan will accept a direct rollover of an eligible rollover distribution from:

-- a qualified plan described in section 401(a) or 403(a) of the Code, including after-tax employee contributions.

-- an eligible plan under section 457(b) of the Code which is maintained by a state, political subdivision of a state, or any agency or instrumentality of a state or political subdivision of a state.

Participant Rollover Contributions from Other Plans:

The plan will accept a participant contribution of an eligible rollover distribution from:

- a qualified plan described in section 401(a) or 403(a) of the Code.
- an annuity contract described in section 403(b) of the Code.
- an eligible plan under section 457(b) of the Code which is maintained by a state, political subdivision of a state, or any agency or instrumentality of a state or political subdivision of a state.

Participant Rollover Contributions from IRAs:

The plan will accept a participant rollover contribution of the portion of a distribution from an individual retirement account or annuity described in section 408(a) or 408(b) of the Code that is eligible to be rolled over and would otherwise be includible in gross income.

Effective Date of Direct Rollover and Participant Rollover Contribution Provisions:

Rollovers From Other Plans, shall be effective for plan years beginning after December 31, 2001.

SECTION 9. PLAN LOANS FOR OWNER-EMPLOYEES AND SHAREHOLDER EMPLOYEES

Effective for plan loans made after December 31, 2001, plan provisions prohibiting loans to any owner-employee or shareholder-employee shall cease to apply.

SECTION 10. REPEAL OF MULTIPLE USE TEST

The multiple use test described in Treasury Regulation section 1.401(m)-2 and section -- of the plan shall not apply for plan years beginning after December 31, 2001.

IN WITNESS WHEREOF, the Institution has caused this Amendment to be executed by its duly authorized officer as of the 31st day of December, 2002.

By: _____

Second Amendment
To The
American Mathematical Society Tax-Deferred Annuity Plan

WHEREAS, the American Mathematical Society (the "Institution") has heretofore adopted the American Mathematical Society Tax-Deferred Annuity Plan (the "Plan") effective June 8, 1975; and

WHEREAS, the Institution reserved the right to amend the Plan from time to time pursuant to Article IX of the Plan; and

WHEREAS, the Institution desires to amend the Plan to adopt new claims procedures pursuant to the Department of Labor regulations and the required minimum distribution model amendment set forth in IRS Revenue Procedure 2002-29.

NOW THEREFORE, the Plan is amended as set forth below:

1. Effective January 1, 2002, the Plan shall be amended to incorporate the following:

"Claims and Claims Review Procedure.

(a) All claims for benefits under the Plan shall be filed in writing with the Plan Administrator.

(b) If the claim is wholly or partially denied, the Plan Administrator shall furnish the claimant written notice of its decision within ninety (90) days after receipt of the claim by the Plan Administrator. The notice of denial shall set forth in a manner calculated to be understood by the claimant:

(i) The specific reason or reasons for the denial;

(ii) Specific references to pertinent Plan provisions on which the denial is based;

(iii) A description of any additional material or information necessary for the claimant to perfect a claim and an explanation of why such material or information is necessary; and

(iv) An explanation of the Plan's claims review procedure.

(c) If the Plan Administrator determines that an extension of time will be necessary to process the claim, written notice of the extension shall be provided to the claimant prior to the expiration of the ninety-day period. The length of the extension shall not exceed ninety days.

The extension notice shall specify the circumstances requiring the extension and the anticipated date for which the Plan Administrator wishes to render a decision. The claimant shall have at least forty-five days within which to provide the specific information. If the Plan Administrator files an extension due to a claimant's failure to submit information necessary to decide a claim, the period for making the determination shall be tolled from the date the extension notice is sent to the claimant until the date the claimant responds to the request for the additional information.

(d) Within sixty (60) days after the receipt of a notice of denial, the claimant may file with the Plan Administrator a written request for a full review of the Plan Administrator's decision. The review on appeal shall not afford deference to the initial adverse benefit determination and shall be conducted by the appropriate named fiduciary who is neither the individual who made the adverse benefit determination nor the subordinate of such individual.

The claimant shall have the opportunity to submit written comments, documents, records and other information relating to the claim for benefits. Upon request of the claimant and free of charge, reasonable access to, and copies of, all documents, records and other information relevant to the claim shall be made available to the claimant. The review shall take into account all comments, documents, records and other information submitted without regard to whether such information was submitted or considered in the initial benefit determination.

If the benefit application is denied upon review, the named fiduciary shall provide a written explanation of its adverse determination explaining the specific reason(s) for the adverse determination, specific references to the Plan provisions on which the denial is based, a statement that the claimant is entitled to receive documents relevant to your claim, upon request and free of charge, and a statement describing any voluntary appeal procedures offered by the Plan and the right to receive information about those procedures, and a statement of the claimant's right to bring an action under Section 502(a) of ERISA.

(e) The decision of the review shall be made within a reasonable period of time, and not later than sixty (60) days after the receipt of the request for review, unless special circumstances require an extension of time for processing. If an extension is required, the claimant shall be provided a notice of the extension prior to the expiration of the sixty-day period, of which such notice shall satisfy the requirements outlined in Section 10.6(c) above."

2. The Plan is hereby amended by the adoption of the Internal Revenue Service Model Amendment as set forth below:

"Minimum Distribution Requirements.

Section 1. General Rules

1.1. **Effective Date.** The provisions of this article will apply for purposes of determining required minimum distributions for calendar years beginning with the 2003 calendar year.

1.2. **Precedence.** The requirements of this article will take precedence over any inconsistent provisions of the Plan.

1.3. **Requirements of Treasury Regulations Incorporated.** All distributions required under this article will be determined and made in accordance with the Treasury regulations under section 401(a)(9) of the Internal Revenue Code.

1.4. **TEFRA Section 242(b)(2) Elections.** Notwithstanding the other provisions of this article, other than section 1.3, distributions may be made under a designation made before January 1, 1984, in accordance with section 242(b)(2) of the Tax Equity and Fiscal Responsibility Act (TEFRA) and the provisions of the plan that relate to section 242(b)(2) of TEFRA.

Section 2. Time and Manner of Distribution.

2.1. **Required Beginning Date.** The participant's entire interest will be distributed, or begin to be distributed, to the participant no later than the participant's required beginning date.

2.2. **Death of Participant Before Distributions Begin.** If the participant dies before distributions begin, the participant's entire interest will be distributed, or begin to be distributed, no later than as follows:

(a) If the participant's surviving spouse is the participant's sole designated beneficiary, then, except as provided in the plan, distributions to the surviving spouse will begin by December 31 of the calendar year immediately following the calendar year in which the participant died, or by December 31 of the calendar year in which the participant would have attained age 70½, if later.

(b) If the participant's surviving spouse is not the participant's sole designated beneficiary, then, except as provided in the Plan, distributions to the designated beneficiary will begin by December 31 of the calendar year immediately following the calendar year in which the participant died.

(c) If there is no designated beneficiary as of September 30 of the year following the year of the participant's death, the participant's entire interest will be

distributed by December 31 of the calendar year containing the fifth anniversary of the participant's death.

(d) If the participant's surviving spouse is the participant's sole designated beneficiary and the surviving spouse dies after the participant but before distributions to the surviving spouse begin, this section 2.2, other than section 2.2(a), will apply as if the surviving spouse were the participant.

For purposes of this section 2.2 and section 5, distributions are considered to begin on the participant's required beginning date (or, if section 2.2(d) applies, the date distributions are required to begin to the surviving spouse under section 2.2(a)). If annuity payments irrevocably commence to the participant before the participant's required beginning date (or to the participant's surviving spouse before the date distributions are required to begin to the surviving spouse under section 2.2(a)), the date distributions are considered to begin is the date distributions actually commence.

2.2A Election to Allow Participants or Beneficiaries to Elect 5-Year Rule. Participants or beneficiaries may elect on an individual basis whether the 5-year rule or the life expectancy rule in the plan applies to distributions after the death of a participant who has a designated beneficiary. The election must be made no later than the earlier of September 30 of the calendar year in which distribution would be required to begin under the plan, or by September 30 of the calendar year which contains the fifth anniversary of the participant's (or, if applicable, surviving spouse's) death. If neither the participant nor beneficiary makes an election under this paragraph, distributions will be made in accordance with the plan.

2.3. Form of Distribution. Unless the participant's interest is distributed in the form of an annuity purchased from an insurance company or in a single sum on or before the required beginning date, as of the first distribution calendar year distributions will be made in accordance with sections 3, 4 and 5 of this article. If the participant's interest is distributed in the form of an annuity purchased from an insurance company, distributions thereunder will be made in accordance with the requirements of section 401(a)(9) of the Code and the Treasury regulations. Any part of the participant's interest which is in the form of an individual account described in section 414(k) of the Code will be distributed in a manner satisfying the requirements of section 401(a)(9) of the Code and the Treasury regulations that apply to individual accounts.

Section 3. Determination of Amount to be Distributed Each Year.

3.1. General Annuity Requirements. If the participant's interest is paid in the form of annuity distributions under the plan, payments under the annuity will satisfy the following requirements:

- (a) the annuity distributions will be paid in periodic payments made at intervals not longer than one year;
- (b) the distribution period will be over a life (or lives) or over a period certain not longer than the period described in section 4 or 5;
- (c) once payments have begun over a period certain, the period certain will not be changed even if the period certain is shorter than the maximum permitted;
- (d) payments will either be nonincreasing or increase only as follows:
 - (1) by an annual percentage increase that does not exceed the annual percentage increase in a cost-of-living index that is based on prices of all items and issued by the Bureau of Labor Statistics;
 - (2) to the extent of the reduction in the amount of the participant's payments to provide for a survivor benefit upon death, but only if the beneficiary whose life was being used to determine the distribution period described in section 4 dies or is no longer the participant's beneficiary pursuant to a qualified domestic relations order within the meaning of section 414(p);
 - (3) to provide cash refunds of employee contributions upon the participant's death; or
 - (4) to pay increased benefits that result from a plan amendment.

3.2. Amount Required to be Distributed by Required Beginning Date. The amount that must be distributed on or before the participant's required beginning date (or, if the participant dies before distributions begin, the date distributions are required to begin under section 2.2(a) or (b)) is the payment that is required for one payment interval. The second payment need not be made until the end of the next payment interval even if that payment interval ends in the next calendar year. Payment intervals are the periods for which payments are received, e.g., bi-monthly, monthly, semi-annually, or annually. All of the participant's benefit accruals as of the last day of the first distribution calendar year will be included in the calculation of the amount of the annuity payments for payment intervals ending on or after the participant's required beginning date.

3.3. Additional Accruals After First Distribution Calendar Year. Any additional benefits accruing to the participant in a calendar year after the first distribution calendar year will be distributed beginning with the first payment interval ending in the calendar year immediately following the calendar year in which such amount accrues.

Section 4. Requirements For Annuity Distributions That Commence During Participant's Lifetime.

4.1. Joint Life Annuities Where the Beneficiary Is Not the Participant's Spouse. If the participant's interest is being distributed in the form of a joint and survivor annuity for the joint lives of the participant and a nonspouse beneficiary, annuity payments to be made on or after the participant's required beginning date to the designated beneficiary after the participant's death must not at any time exceed the applicable percentage of the annuity payment for such period that would have been payable to the participant using the table set forth in Q&A-2 of section 1.401(a)(9)-9 of the Treasury regulations. If the form of distribution combines a joint and survivor annuity for the joint lives of the participant and a nonspouse beneficiary and a period certain annuity, the requirement in the preceding sentence will apply to annuity payments to be made to the designated beneficiary after the expiration of the period certain.

4.2. Period Certain Annuities. Unless the participant's spouse is the sole designated beneficiary and the form of distribution is a period certain and no life annuity, the period certain for an annuity distribution commencing during the participant's lifetime may not exceed the applicable distribution period for the participant under the Uniform Lifetime Table set forth in section 1.401(a)(9)-9 of the Treasury regulations for the calendar year that contains the annuity starting date. If the annuity starting date precedes the year in which the participant reaches age 70, the applicable distribution period for the participant is the distribution period for age 70 under the Uniform Lifetime Table set forth in section 1.401(a)(9)-9 of the Treasury regulations plus the excess of 70 over the age of the participant as of the participant's birthday in the year that contains the annuity starting date. If the participant's spouse is the participant's sole designated beneficiary and the form of distribution is a period certain and no life annuity, the period certain may not exceed the longer of the participant's applicable distribution period, as determined under this section 4.2, or the joint life and last survivor expectancy of the participant and the participant's spouse as determined under the Joint and Last Survivor Table set forth in section 1.401(a)(9)-9 of the Treasury regulations, using the participant's and spouse's attained ages as of the participant's and spouse's birthdays in the calendar year that contains the annuity starting date.

Section 5. Requirements For Minimum Distributions Where Participant Dies Before Date Distributions Begin.

5.1. Participant Survived by Designated Beneficiary. Except as provided in the Plan, if the participant dies before the date distribution of his or her interest begins and there is a designated beneficiary, the participant's entire interest will be distributed, beginning no later than the time described in section 2.2(a) or (b), over the life of the designated beneficiary or over a period certain not exceeding:

(a) unless the annuity starting date is before the first distribution calendar year, the life expectancy of the designated beneficiary determined using the

beneficiary's age as of the beneficiary's birthday in the calendar year immediately following the calendar year of the participant's death; or

(b) if the annuity starting date is before the first distribution calendar year, the life expectancy of the designated beneficiary determined using the beneficiary's age as of the beneficiary's birthday in the calendar year that contains the annuity starting date.

5.2. No Designated Beneficiary. If the participant dies before the date distributions begin and there is no designated beneficiary as of September 30 of the year following the year of the participant's death, distribution of the participant's entire interest will be completed by December 31 of the calendar year containing the fifth anniversary of the participant's death.

5.3. Death of Surviving Spouse Before Distributions to Surviving Spouse Begin. If the participant dies before the date distribution of his or her interest begins, the participant's surviving spouse is the participant's sole designated beneficiary, and the surviving spouse dies before distributions to the surviving spouse begin, this section 5 will apply as if the surviving spouse were the participant, except that the time by which distributions must begin will be determined without regard to section 2.2(a).

Section 6. Definitions.

6.1. Designated beneficiary. The individual who is designated as the beneficiary under the plan and is the designated beneficiary under section 401(a)(9) of the Internal Revenue Code and section 1.401(a)(9)-1, Q&A-4, of the Treasury regulations.

6.2. Distribution calendar year. A calendar year for which a minimum distribution is required. For distributions beginning before the participant's death, the first distribution calendar year is the calendar year immediately preceding the calendar year which contains the participant's required beginning date. For distributions beginning after the participant's death, the first distribution calendar year is the calendar year in which distributions are required to begin pursuant to section 2.2.

6.3 Life expectancy. Life expectancy as computed by use of the Single Life Table in section 1.401(a)(9)-9 of the Treasury regulations.

6.4. Required beginning date. The date specified in Article VII of the plan.”

IN WITNESS WHEREOF, the Institution has caused this Amendment to be executed by its duly authorized officer as of the 31st day of December, 2002.

By: _____

Financial Guidance: Cost Allocations

Introduction. Cost accounting is inherently different from financial accounting. The objective of financial accounting is to present financial information about an enterprise in a manner that is meaningful for financial decision-making purposes. While some users of the information may be internal to the enterprise, financial accounting focuses primarily on the needs of users who are external to the enterprise, such as investors, lenders and regulatory bodies. There is a body of guidance for financial accounting, ‘generally accepted accounting principles,’ to which an enterprise’s financial accounting must conform.

The objective of cost accounting, also known as management or managerial accounting, is to provide management of an enterprise with meaningful and effective tools to plan and control the activities of the enterprise. Its focus is entirely internal to the enterprise, and there is no body of guidance to which an enterprise must conform when establishing its cost accounting system. One exception to this is cost accounting under government grants and contracts, which is subject to prescribed rules and is for external users.

For planning, cost accounting deals with the future. It assists management to budget future costs such as wages and benefits, product materials costs and marketing costs. These costs are useful in determining expected profit from various activities, which in turn can affect pricing decisions (while also considering market and economic forces). For a not-for-profit, decisions to add or curtail activities are affected by cost information.

For control, cost accounting deals with the present, comparing current results with past results and predetermined budgets or standards. Via cost accounting and reporting, management of an enterprise is informed of those activities that fail to contribute their expected share of the total profit or that are performing inefficiently, leading to profit erosion. At a not-for-profit, reduced profit in those activities expected to generate profit will eventually lead to curtailment of services or programs offered by the enterprise. Cost accounting also gives management of not-for-profit organizations information as to how effectively (as compared to the budget or the past) the enterprise’s resources are being used to deliver services and programs.

There is an intersection of financial accounting and cost accounting. Cost accounting deals with the income statement information, at various levels of disaggregation of the data that are meaningful to management. An enterprise’s external income statement presents the same or similar information at a more aggregated level. If one compares the Society’s audited financial statements to the B-Pages of the same year, one will notice that the presentation format of the audited income statement is the same as the format of the B-Page summary. One will also note that the only difference between the two is that the income statement spreads the post-retirement benefit cost among the various activities presented, while the B-Pages presents this cost as a separate line item. While the former presentation is in conformity with generally accepted accounting principles, management of the Society prefers to look at this cost separately, in aggregate, as it is not possible to determine which personnel will actually use the benefit at a future date, so including this as a cost of products and activities is not meaningful to management.

Not all cost accounting systems can be so easily used for financial accounting purposes. For instance, a decade ago the Society had in place a cost accounting system that allocated general and administrative costs out to all projects and activities. Doing so is not in conformity with current generally accepted accounting principles for not-for-profit entities, so if the same system were in use today adjustments would have to be made to remove these costs from activities and present them separately for financial statement purposes. The current cost accounting system used by the Society meets the requirements financial accounting standards, with the lone exception related to post-retirement benefits discussed above.

Some terms to understand. It is important to understand the following terms, which are typically used when discussing cost accounting. They relate primarily to how costs behave and are important concepts to management when using cost information to make decisions.

Variable costs: these are costs that vary in direct relation to changes in the volume of output or production. The cost per unit is comparatively constant in the face of changing volume, within a relevant range of volumes. Examples of the Society's variable costs are paper and printing costs, which vary with the number of pages produced. Labor costs in the production groups of the Publications division also vary with the number of pages prepared, and this rate can be significantly different between books and journals. Control of variable costs often rests with production management.

Fixed costs: these are costs that are generally fixed or constant in amount within a relevant range of output and tend to be constant over long periods of time. The amount of fixed cost per unit decreases with increased volume of output in the relevant range. Examples of the Society's fixed costs are building operation and maintenance costs, depreciation of fixed assets, and salaries and benefits of executives. Control of fixed costs often rests with executive management.

One thing to note about fixed and variable costs is the term 'relevant range.' It has been said that all costs are fixed over a sufficiently short run and variable over a sufficiently long run. For example, a relevant range for Providence publication production might be 20,000 to 25,000 pages of journals and 80 to 120 books (these are hypotheticals, only). Within those ranges, building space, computing networks and servers, etc. are all adequate, so those costs are fixed. If production exceeds those ranges, it may be that more building space is needed; bigger, faster servers are needed, etc., so these fixed cost increase. It may be helpful to think about fixed costs as a step function. As long as production does not vary off a particular step, the costs are fixed.

For management and planning purposes, we tend to think of publication production time as a variable cost per page. However, in practice, we need to work with whole employees, so that cost is really fixed over the range of production equal to the work that can be done by an individual employee.

Marginal costs: these are the costs of a product or service considering only the variable cost components. The J-Pages include information about the marginal production costs per page of the Society's journals. Marginal costs give management information about the cost of adding

one more unit (in this case, a page in a journal). Marginal costs are always referred to as 'marginal cost per (whatever your base is).

Incremental costs: these are the costs of producing one more unit of the product and are usually entirely variable in nature. For instance, the cost to produce one more copy of a book or journal includes only the printing costs (including paper and binding). If one looks at the J-Pages, one will notice that the cost to fulfill one more subscription is at most the total of printing and postage costs, and at least merely the postage costs (if one assumes that the original edition size can accommodate the additional subscriber). In the example given above, since the incremental costs are entirely variable, the incremental cost of servicing one more subscriber is the same as the marginal cost of producing and delivering one more unit of product.

The concept of incremental costs and the J-Pages demonstrate why subscriber attrition is of such concern to the Society. In 2002, subscriptions to *Transactions* provided the Society with \$1,206,900 of gross profit. This amounts to a gross profit percentage of 83% (on revenue). The loss of one subscriber saves only postage costs, as one would not generally change the edition size for such a small reduction. All but \$14 (the postage savings) of the subscription revenue (average of \$1,226 per subscriber) is removed from the gross profit when one subscriber is lost. It doesn't take a very large attrition rate to drop the gross profit percentage and dollars significantly, and market forces limit how much can be recovered by price increases.

Incremental costs are not always totally variable in nature. For instance, the cost of adding a particular service may require the addition of staff. The entire cost of this additional staff person is an incremental cost of doing the project, even if the person is not initially devoted 100% to the project.

It is often easy to forget that variable costs are not the only cost of doing business. In the case of journals, for example, there is a huge amount of infrastructure necessary, including everything from warehouse space to web space that must be in place and maintained, a typesetting system, a subscription fulfillment system, a volunteer and governance structure, etc. All these are necessary costs, but impossible to allocate to individual products in a non-arbitrary way.

First copy or first unit costs: these are the costs incurred to produce the first copy or unit of a product. In the publishing industry, they are quite high as these costs encompass all the editorial, production and printing processes to get one copy of the book or journal produced. An interesting exercise is to estimate how many units you have to sell in order to recover the first copy costs. If there is any doubt as to selling significantly more units than this amount, it is an indication the item should not be produced (assuming there are no reasons to produce the item other than financial considerations).

Cost accounting at the AMS. The Society accounts for the costs of its activities and products first by segregating its accounting system into two sections: department costs and project or activity costs. Projects include each journal volume, each book, each meeting and each service activity such as the Employment Register. Applicable department costs are then allocated to projects using appropriate rates and bases. The costs seen associated with each project in the B-Page detail are a combination of allocated costs and costs specifically identified with that project,

such as royalties or outside binding for a book or travel costs for meetings staff for on-site coordination of a meeting. Although not exactly accurate in managerial accounting lingo, we term these costs as '*identifiable direct costs*' of the project. The difference between the revenues generated (if any) and the identifiable direct costs of a project is the gross profit generated by or the net costs of the project.

The costs specifically identified with a project are relatively easy to identify, as these are generally from outside vendors and specifically ordered for the project. An individual staff member involved with the project approves the invoice, travel voucher or other appropriate documentation and indicates that it is related to a specific project. Payment is then processed by the Fiscal Department (subject to review and internal control procedures) and the project is charged in the appropriate expense line (see the A-Pages for typical types of expenses incurred).

The allocation of department costs to projects is more complex and requires an understanding of the nature of the costs in each department and how these departmental resources are deployed to accomplish the objectives of the projects. Cost allocations are under the control and responsibility of the Fiscal Department.

If a cost is not identified with a specific project, then it is identified with a specific department. For instance, all the personnel costs incurred by the Society are included entirely in departments. Accordingly, of the \$20,162,651 in costs incurred by operations in 2002, over \$15,691,000, or almost 78%, were originally recorded in departments. Since personnel costs account for approximately 66% of the Society's costs (see Budget Review memo), this result is not surprising.

The Society has segregated its departments for cost accounting purposes into four types – (1) those that do not allocate their costs to projects or other departments, (2) those that allocate their costs principally to other departments, (3) those that allocate their costs principally to projects, and (4) Mathematical Reviews departments. The first type includes departments that are considered to be overhead departments. Examples of these are the Publications and Acquisitions Departments (included in indirect costs of books or all publications in the B-Pages), the Professional Programs and Services Department (included in membership and professional divisional indirect costs in the B-Pages), all the governance departments and all the departments comprising the general and administrative section in the B-Pages.

This first type also includes departments involved with projects, but for which there is no reasonable basis for allocation of department costs to specific projects. These include the Distribution, Membership and Customer Services Departments. Clearly these departments are involved in the sale and delivery of products to members and other customers, but there is no reasonable basis for allocating the departmental costs to a specific book, journal or other product or service.

It should be noted that the allocation of costs is meaningful to management only when there is some reasonable basis for the allocation. Without a reasonable basis, the allocation is arbitrary and can often obscure results of activities and processes that need to be understood for management decision-making purposes. Accordingly, we include these departments as part of

divisional indirect costs in the B-Pages, as the activities performed by the Distribution and the Customer Services Departments are almost solely related to the sale or delivery of products and services of the Publications Division and the activities performed by the Membership Department are almost solely related to the activities of the Member and Professional Services Division.

The second type of department includes the three facilities (Providence, Pawtucket and Ann Arbor), the Systems and Operations Department and the Management Information Systems Department. These departments provide the physical and computing infrastructure for all other departments, so their costs are charged out to the user departments. The facility department costs are charged out to user departments based on the square footage assigned to each department. Systems and Operations (SOD) costs are charged out based on a detailed examination of the costs incurred to maintain all computing hardware and purchased software and the users of the various servers, networks, printers and software. From this analysis percentages of the SOD resources used applicable to each department are developed.

The Management Information Systems Department (MIS) maintains and enhances the various in-house developed systems used to process transactions, maintain customer and member information, track publications through the production processes, etc. Staff in this department manage their work via a request and project system, which assigns primary responsibility to a requesting or user department. MIS hours worked on each of these internally defined projects are then charged out to the appropriate department using a department hourly rate. While MIS occasionally charges projects instead of departments, these projects tend to be included in the indirect cost of a division or the general and administrative costs of the Society as a whole. Therefore, MIS costs are never allocated directly into projects that account for the products and services of the Society.

When department hourly rates are used to allocate costs, the rate is initially developed using the department budget information. The budget information includes the total costs expected to be incurred by a department as well as the number of hours expected to be worked on various projects (whether departmentally defined projects, as in the case of MIS, or Society defined projects such as books, journals and meetings). From this budget information a departmental hourly rate is developed which absorbs all departmental costs and allocates them out to the appropriate departments or projects.

Due to constraints in the cost allocation system, the initial budgeted hourly rate is the prior year's budgeted rate for each department. This results in often significant dollars in the account 'under/over allocated,' which is shown in the miscellaneous section of the B-Pages. Once the current year's budget is 'live' in the system, the final budgeted rate for the year is calculated and the 'under/over allocated' account is reduced to a negligible amount.

If, at the end of the year, the actual activity in the department results in unabsorbed or overabsorbed costs, the rate for that department is adjusted from the budgeted amount to an actual rate that properly absorbs the departmental costs before the books are closed for the year.

Most of the third type of department, those that allocate their costs principally to projects, use department hourly rates to distribute their costs to the projects worked on during a year. These departments include the production departments in the Publications division (Electronic PrePress, Graphic Arts, Publications Technical Group), the Meetings Department, the Electronic Products Development Department and the Professional Programs Department. The Printshop uses a different method of allocating its costs to the material it prints. It analyzes its costs according to the different processes used (ECRM and platemaking, each of the press types, color, binding, etc.) and then uses a special software program to allocate the departmental costs to the various jobs it runs, which is dependent upon the processes involved.

The fourth type of department consists entirely of the departments that work on *Mathematical Reviews*. Since this group is physically segregated from the others, it must duplicate some of the administrative functions found in Providence (building operations and maintenance, some aspects of human resources, some purchasing, etc.). Since staff in Michigan is entirely devoted to *Mathematical Reviews*, all of these costs, including those that would otherwise be considered to be general and administrative, are allocated to the MR database or the various MR delivery methods (paper MR, MathSciNet or MathSciDisc).

Analysis. Cost accounting does not stop with the establishment and use of the system. The final step is to analyze the data, which is the responsibility of the Fiscal Department as well as departmental managers at the Society. The Fiscal Department prepares overall analyses of operating results (actual, budgeted and projected) four times a year, as seen in the A and B-Pages. Department managers must prepare a quarterly report of actual costs vs. budgeted costs for their departments and some projects, with appropriate discussion of variances. Additionally, Fiscal performs detailed analyses of the costs of publications, including hours per page rates of the production departments which can indicate staff and process efficiencies and/or problems encountered and opportunities to improve processes. MR staff analyze their activities using citations and reviews processed as the base.

You can have all the data in the world available, but if you don't select an appropriate base for the analysis, the results are meaningless for decision-making purposes, or worse, misleading. The base must be relevant to the activity being analyzed and the results must allow for discernment of trends or problems. For example, if one compares the costs of individual books published each year using the allocated costs from departments shown on the project statement, the intrinsic differences between the books are not taken into account. For the various production departments that allocate their costs on an hourly basis, hours per page is a much more meaningful number, as this normalizes the data for the often significant differences in total page count among books published. For the printshop, the per image rate is a better number for analysis, as this normalizes the total cost of various books for differences in page count as well as edition size.

Also, using total dollars instead of hours in the analysis will not take into account changing departmental costs from one year to the next or between actual and budgeted departmental costs, if one is comparing results to budget or prior actual results. Using total dollars in this example can lead to seeing 'false' trends or the masking of actual trends that may be important. For these

reasons, Fiscal often analyzes costs from a variety of perspectives in order to fully understand the results.

Summary. Cost accounting is complicated. A great deal of planning and thought needs to be done when establishing a system for any enterprise, as well as when one 'tweaks' the system in efforts to provide more relevant information. One must determine the relevant data up front, and design a system that will compile that data efficiently for further analysis.

The Society's cost accounting system has evolved over time, and in that evolution has actually gotten simpler. We may still use a system that must solve simultaneous equations (this is the AMS, after all), but we no longer allocate overhead type costs to projects, and we have ceased allocating costs for which there is no relevant base for the allocation. For accounting purposes, we may combine departments or create new ones for cost allocation purposes, depending upon the perceived relevance of the resulting aggregated or disaggregated data obtained. We are no longer wedded to the (sometimes ridiculous but pervasive) idea that the cost accounting structure must match the lines of responsibility and authority of the Society.

We have also moved more managerial positions into 'line' or 'charge-out' departments, leaving only the top tier of management in the indirect or overhead cost pools. These managers may not charge out their time to projects to the extent that their staff does, but without the direction of these managers staff would not be able to function efficiently or effectively. We now consider the absorption of the costs associated with these managers appropriately included in hourly rates. When we make changes that have a significant effect on the comparability of the data presented, we alert the users to the change (see applicable notes on the A, B and J-Pages).

Unfortunately, we do require many employees to report accurate time records, project by project, which is probably the most detested aspect of their jobs. With the large number of projects that may be worked on by staff, recording (reasonably) accurate time records is a feat unto itself. And while there is a certain level of detail required for the cost accounting system, some departments require even further detail in the time records to effectively manage their activities. This issue affects primarily the Providence computing departments, where costs may all be recorded in one place for accounting purposes but the work is comprised of distinct, departmentally defined sub activities or projects that need to be monitored and evaluated by the department manager. Tracking time is a complicated process and it is not expected that this requirement will change any time soon, as the Society's primary resource used to make its products and deliver its services is its employees' time and expertise.

The Society's cost accounting system and subsystems are complicated, but not overly so for the numerous activities and products of the Society. They work reasonably efficiently and provide the information needed to manage the Society both in the short run and the long run, and from the smaller departmental perspective and well as from the more global perspectives of divisions and the Society as a whole.

*Constance W. Pass
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