AMERICAN MATHEMATICAL SOCIETY

COUNCIL MINUTES

07 April 2006

Prepared 19 April 2006

Abstract

The Council of the Society met at 6:45 p.m. on Friday, 07 April 2006, in the Chicago Room of the Chicago O'Hare Hilton Hotel, O'Hare International Airport, Chicago, IL, 60666. These are the minutes of the meeting. Although several items were discussed in Executive Session, all actions taken are reported in these minutes.

I. Minutes

1.   Call to Order

1.1. Opening of the Meeting and Introductions

AMS President James G. Arthur called the meeting to order at 6:45 p.m. and presided throughout. Other Council members present were: Sara C. Billey, Walter L. Craig, Robert J. Daverman, Beverly E.J. Diamond, Ronald A. Fintushel, John M. Franks, Susan J. Friedlander, James G. Glimm, William M. Goldman, Mark Goresky, Robert M. Guralnick, Craig L. Huneke, Judy A. Kennedy, Sheldon H. Katz, Michel L. Lapidus, Paul J. Sally, Jr., J. T. Stafford, Judy L. Walker and Catherine H. Yan. Other interested parties and guests were De Witt Sumners (AMS Committee on Science Policy Chair), Sandy Golden (Administrative Assistant, AMS Secretary), John H. Ewing (AMS Executive Director), Ellen J. Maycock (AMS Associate Executive Director) and Linda Keen (AMS Nominating Committee Chair). Michel L. Lapidus was the voting Associate Secretary.
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1.2. 2005 Elections and More

Newly elected or appointed members of the Council took office on 01 February 2006, and they are:

President Elect	James G. Glimm
Vice President:	Ruth M. Charney
Members at Large	William M. Goldman Craig L. Huneke Judy A. Kennedy Ken Ono Judy L. Walker
Proceedings of the AMS Editorial Comm.	Ronald A. Fintushel

1.3 List of Council Members

A list of current Council members can be found in Attachment A.

2. Minutes

2.1. Minutes of the January 2006 Council

The minutes of the January 2006 Council were approved as distributed.

2.2. Minutes of Business by Mail

The Council has conducted business by mail since the last meeting, electing a member to its Executive Committee. Minutes for this business were approved and are attached (Attachment B). The action taken was to elect Sylvain E. Cappell to the Executive Committee of the Council for a four-year term (01 Feb 2006 - 31 Jan 2010).

3. Consent Agenda

The items appearing under Item 3 were approved by consent. (Items in the Consent Agenda are considered approved unless brought to the floor for discussion, in which case they must be approved in the usual manner and details of which then appear in the relevant section of the Council Minutes.)

3.1. Leonard Eisenbud Prize Selection Committee

At its January 2006 meeting the Council approved a new Leonard Eisenbud Prize, for a paper in mathematics or physics which brings the two fields closer together. At this meeting the Council established the Prize Selection Committee, with the following general description and charge.

Leonard Eisenbud Prize Selection Committee

General Description
- Committee is standing
- Number of members is three
- Term is three years

The Leonard Eisenbud Prize for Mathematics and Physics will honor a work or group of works that brings the two fields closer together. Thus, for example, the prize might be given for a contribution to mathematics inspired by modern developments in physics or for the development of a physical theory exploiting modern mathematics in a novel way.

Principal Activities
The committee discusses candidates, identifies the awardee, and reports its choice to the Executive Committee by October 15 of the year prior to the awarding of the prize.

Miscellaneous Information
The prize is awarded every third year.
The amount is the standard AMS award for research prizes (currently $5000).
The business of this committee can be done by mail, electronic mail or telephone, expenses for which may be reimbursed by the Society. This committee has been designated as **LEVEL F**.

3.2. AMS Notices Editorial Board

The general description of the editorial board was changed to reflect current practice. The new general description reads:

Notices Editorial Board
General Description
- Committee is standing.
- Number of members is approximately thirteen, one Editor and twelve Associate Editors.
- Term is concurrent with that of the Editor.
- Secretary serves *ex-officio*

3.3. AMS-IMS-SIAM Joint Summer Research Conferences Advisory Panel

Upon the recommendation of the support staff for the Selection Committee for the Summer Research Conferences, the Council discharged this Advisory Panel, with thanks. Created in 2000, the panel no longer

fulfills the function for which it was designed. When seeking renewed funding for the AMS-IMS-SIAM Summer Research Conferences for 2000 and beyond, the AMS and SIAM submitted a joint proposal to the Division of Mathematical Sciences (DMS) at the National Science Foundation (NSF). When the proposal was funded, this Advisory Panel was created to incorporate DMS "suggestions" which were made following a review of an earlier SRC proposal. The NSF no longer seems interested in maintaining the high level of oversight provided by the Advisory Panel.

4. Reports of Boards and Standing Committees

4.1. Nominating Committee [Executive Session]

The AMS Nominating Committee made recommendations to the AMS Council for its elections, as spelled out in the subsequent subsections. Linda Keen, chair of the AMS Nominating Committee, presented the committee report.

4.1.1. President Elect

The Nominating Committee recommends the nominations of **GEORGE E. ANDREWS** (Pennsylvania State University) and **JOHN W. MORGAN** (Columbia University) as candidates for President Elect for the 2007 Election.. This would be for a one year term, 01 February 2008 - 31 Jan 2009, followed by a two year term as President and then by a one year term as Immediate Past President. The Nominating Committee also recommends that Richard A. Askey (University of Wisconsin) be named to write the nominating article for Andrews and Hyman Bass (University of Michigan) to write the one for Morgan.

Candidates for the post of President Elect will stand for election in Fall 2007; candidates for all the other positions named below will stand for election in Fall 2006.

4.1.2. Vice President

The Council nominated **ROBERT L. BRYANT** (Duke University) and **SYLVIA M. WIEGAND** (University of Nebraska) as candidates for election to one post as Vice President for a term of three years, beginning 01 February 2007 and ending 31 January 2010.

4.1.3. Members at Large of the Council

The Council nominated **RODRIGO BANUELOS** (Purdue University) **ROBERT L. DEVANEY** (Boston University), **DETLEF GROMOLL** (SUNY Stony Brook), **GREGORY F. LAWLER** (Cornell University), **FRANK S. QUINN** (VPI), **DAVID J. SALTMAN** (University of Texas Austin), **MARTIN G. SCHARLEMANN** (University of Calfiornia, Santa Barbara) **MARJORIE SENECHAL** (Smith College), **KATHERINE ST JOHN** (LehmanCollege, CUNY), and **FRANCIS EDWARD SU** (Harvey Mudd College) as candidates for election to positions as Member at Large of the Council. Five people are to be elected, each for a term of three years beginning 01 February 2007 and ending 31 January 2010.

4.1.4. Trustee

The Council nominated **HENRY B. LAUFER** (Renaissance Technologies) and **CAROL S. WOOD** (Wesleyan University) as candidates for election to one post as Trustee for a term of five years, beginning 01 February 2007 and ending 31 January 2012.

4.2 Bulletin Editorial Committee [Executive Session]

Upon the recommendation of Susan Friedlander, Chief Editor of the Bulletin, Council reappointed **ROBERT L. DEVANEY** (Boston College) as Bulletin Editor for Book Reviews for the 01 Feb 2007 -31 Jan 2009 term. Upon the recommendation of the Chief Editor and the Book Reviews Editor, Council reappointed **STEVEN G. KRANTZ** (Washington University) and **PHILIP E. PROTTER** (Cornell University) as Associate Editors for Book Reviews for the 01 Feb 2006 -31 Jan 2009 term, and made initial appointments of **KEN ONO** (University of Wisconsin), **LISA TRAYNOR** (Bryn Mawr College) and **JONATHAN L. ALPERIN** (University of Chicago) to the same post for the same term. Finally, it appointed **BRYNA R. KRA** (Northwestern University) as an Associate Editor for Bulletin Articles for the 01 Feb 2006 -31 Jan 2009 term.

4.3. Reports from the AMS-MAA-SIAM Joint Data Committee

The Council filed the 2005 annual report of this committee, as well as the 2004 annual report which had been inadvertently overlooked. They can be found in the AMS Committee Record Book as Reports Number 060210-001 and 050516-003, respectively.

5. Old Business

5.1. Fellows Proposal

At its January 2006 meeting the Council approved placing the Fellows Proposal, as given in the January 2006 Meeting Agenda, on the AMS ballot in the 2006 election for consideration by the membership. Subsequently the subcommittee slightly modified the wording and format of the document with the aim of making the proposal, as it will appear in the election materials, easier for members to understand, without changing the basic content. The subcommittee consists of John H. Ewing, consultant, John M. Franks, Susan Friedlander and Sheldon H. Katz. The modified proposal they prepared came to the Council for approval.

It was moved and seconded to amend the initial "goals of the Fellows Program" section of the modified proposal by changing the word "sciences" by "disciplines." It was noted that lines were missing from the final bullet of that section as produced in the Agenda; the line was reread and was considered part of the proposal. It was moved and seconded to call the question concerning the amendment; that motion carried. The amendment then carried. The Council approved the rewording proposal as amended, and the amended version can be found in Attachment C.

6. New Business

6.1. Discussion

As a repeat of an item first tried in April 2002, the Council devoted a portion of this meeting to a discussion of one of the items in its purview.

At its meeting in November, 2005, the Executive Committee of the Council chose as the discussion topic what the AMS might do to better engage young mathematicians into the profession, including what services the Society could provide them. Two attachments, reproduced here as Attachments D and E, provided background information, Attachment D being an annotated list of what the AMS already is doing to engage and support young mathematicians, and Attachment E being a brief description of a new program, tentatively entitled "Y Research," currently in the potential development stage. Ellen Maycock led off with highlights of the Attachments. There was considerable discussion, largely favorable, about the "Y Research" proposal. Several Council members reported on activities in their own departments that seemed valuable and that the

AMS might emulate more globally, a discussion that was interwoven with discussion of mentoring issues and practices. No actions were taken.

6.2. Report of the Executive Director

The Executive Director, John H. Ewing, gave his annual report to the Council. This year he discussed financial aspects of the society – the money it makes, the money it spends and the money it saves. Ewing's report has been filed in the AMS Committee Report Book as Report Number 060407-002. .

7. Announcements, Information and Record

7.1. Centennial Fellowships

The AMS Centennial Fellowship Committee has announced fellowship awards granted to Christopher D. Hacon (University of Utah) and Bryna R. Kra (Northwestern University). Both have accepted. The amount of each fellowship award for 2006-7 will be $64,000, with an additional expense allowance of $3250.

8. Adjournment

The meeting adjourned at 9:25 pm CDT.

Attachment A

2006 AMS GOVERNANCE

2006 COUNCIL

Officers

President	James G. Arthur	University of Toronto	2006
President Elect	James G. Glimm	SUNY at Stony Brook	2006
Vice Presidents	Vaughan F. R. Jones	University of California, Berkeley	2006
	Haim Brezis	Université Paris VI	2007
	Ruth M. Charney	Brandeis University	2008
Secretary	Robert J. Daverman	University of Tennessee	2006
Associate Secretaries	Michel Lapidus	University of California, Riverside	2007
	Matthew Miller	University of South Carolina	2006
	Susan Friedlander	University of Illinois at Chicago	2007
	Lesley Sibner	Polytechnic Inst of NY	2006
Treasurer	John M. Franks	Northwestern University	2006
Associate Treasurer	Donald E. McClure	Brown University	2006

Representatives of Committees

Bulletin Editorial	Susan J. Friedlander, Chair	University of Illinois, Chicago	2008
Colloquium Editorial	Paul J. Sally, Jr., Chair	University of Chicago	2007
Executive Committee	Walter L. Craig	McMaster University	2006
Journal of the AMS	Ingrid Daubechies	Princeton University	2006
Math Reviews Editorial	Jonathan I. Hall, Chair	Michigan State University	2008
Math Surveys & Monographs	J. T. Stafford, Chair	University of Michigan	2007
Mathematics of Computation	Chi-Wang Shu, Chair	Brown University	2007
Proceedings Editorial	Ronald Fintushel, Chair	Michigan State University	2009
Transactions and Memoirs	Robert Guralnick, Chair	Univ. of Southern California	2008

Members at Large

Sarah C. Billey	University of Washington	2007
James W. Cannon	Brigham Young University	2006
Sylvain E. Cappell	Courant Institute	2006
Beverly E. J. Diamond	College of Charleston	2006
Carolyn S. Gordon	Dartmouth College	2007
William M. Goldman	University of Maryland	2008
Mark Goresky	Institute for Advanced Study	2006
Craig L. Huneke	University of Kansas	2008
Sheldon H. Katz	University of Illinois, Urbana	2007
Judy A. Kennedy	University of Delaware	2008
Ken Ono	University of Wisconsin	2008
Michael F. Singer	North Carolina State	2007
Alejandro Uribe	University of Michigan	2006
Judy L. Walker	University of Nebraska	2008
Catherine H. Yan	Texas A&M University	2007

2006 EXECUTIVE COMMITTEE

James G. Arthur	University of Toronto	*ex officio*
Sylvain E. Cappell	Courant Institute	2009
Walter L. Craig	McMaster University	2006
Robert J. Daverman	University. of Tennessee	*ex officio*
James G. Glimm	SUNY at Stony Brook	*ex officio*
Robert Guralnick	University of Southern California	2008
Paul J. Sally, Jr.	University of Chicago	2007

2006 TRUSTEES

James G. Arthur	University of Toronto	*ex officio*
John B. Conway	University of Tennessee	2010
John M. Franks	Northwestern University	*ex officio*
Eric M. Friedlander	Northwestern University	2009
Linda Keen	CUNY	2008
Donald E. McClure	Brown University	*ex officio*
Jean E. Taylor	Rutgers University	2007
Carol S. Wood	Wesleyan University	2006

Attachment B

AMERICAN MATHEMATICAL SOCIETY
MINUTES OF THE COUNCIL
BUSINESS BY MAIL
15 March 2006

In a mail ballot dated 14 February 2006, there were 28 ballots cast, by:

James G. Arthur	Robert M. Guralnick
Sara C. Billey	Jonathan I. Hall
James W. Cannon	Craig Huneke
Sylvain Cappell	Vaughan Jones
Ruth Charney	Sheldon H. Katz
Walter L. Craig	Judy Anita Kennedy
Robert J. Daverman	Donald E.. McClure
Beverly E. J. Diamond	Ken Ono
Ronald Fintushel	Paul J. Sally, Jr.
John M. Franks	Chi-Wang Shu
Susan Friedlander	Michael F. Singer
James G. Glimm	J. T. Stafford
William M. Goldman	Alejandro Uribe
Mark Goresky	Catherine H. Yan

In the election to the Executive Committee the result was:

Sylvain Cappell	16
Mark Goresky	12

Accordingly, Cappell is declared elected, effective immediately, and ending when a replacement is determined in the election of February 2010.

Robert J. Daverman
Secretary
March 17, 2006

Attachment C

A Proposal for a Fellows Program of the AMS

The goals of the Fellows Program are:

- *To create an enlarged class of mathematicians recognized by their peers as distinguished for their contributions to the profession.*
- *To honor not only the extraordinary but also the excellent.*
- *To lift the morale of the profession by providing an honor more accessible than those currently available.*
- *To make mathematicians more competitive for awards, promotion and honors when they are being compared with colleagues from other disciplines.*
- *To support the advancement of more mathematicians in leadership positions in their own institutions and in the broader society.*

I. Program (steady-state)

A. The Fellows program of the American Mathematical Society recognizes members who have made outstanding contributions to the creation, exposition, advancement, communication, and utilization of mathematics.

B. The responsibilities of Fellows are:
- To take part in the election of new Fellows,
- To present a "public face" of excellence in mathematics, and
- To advise the President and/or the Council on *public matters* when requested.

C. All AMS members are eligible to be elected Fellows.

D. The target number of Fellows will be determined by the AMS Council as a percentage of the number of eligible members.[1] The target percentage will be revisited by the Council at least once every ten years and may be increased or decreased in light of the history of the nomination and election process. The intended size of each year's class of new Fellows should be set with this target size in mind.

E. Following an election process (see below), individuals are invited to become Fellows. They may decline and they may also resign as Fellows at any time.

F. Each year all Fellows are invited to a reception at the AMS annual meeting, and the new Fellows are announced at this reception followed by a press release. New Fellows

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[1] This proposal's recommendation to Council is 5% of eligible members. At present there are about 30,000 eligible members so the number of Fellows would be about 1,500.

receive a certificate and their names are listed on the AMS web site. The names of new Fellows are also included in the Notices.

G. If they are not already Fellows, the AMS President and Secretary are made Fellows when they take office.

II. Election Process

A. New Fellows are elected each year after a nomination process. Eligible voters consist of current Fellows who are also members of the Society. Both the election and the nomination process are carried out under the direction of the Secretary with help from the AMS staff.

B. The Election Committee will consist of nine members of the AMS who are also Fellows, each serving a three-year term, and with three new members appointed each year. The AMS president, in consultation with the Executive Committee of the Council, nominates the new members of the Election Committee in November of each year. At the same time, the President nominates a continuing member of the Election Committee to serve as Chair. The President's choices are approved by Council at its January meeting.

C. The Election Committee accepts nominations for Fellows between February 1 and March 31 each year. Nominations are made by members of the AMS. A member can nominate no more than 4 nominees a year.

D. To be eligible for nomination to Fellowship, an individual must be an AMS member for the year in which he or she is nominated as well as for the prior year.

E. A nominator must supply a package with the following information on the nominee:
1. A Curriculum Vitae *of no more than five pages*.
2. A citation of fifty words or less explaining the person's accomplishments.
3. A statement of cause of 500 words or less explaining why the individual meets the criteria of Fellowship.
4. The signatures of the nominator and three additional AMS members who support the nomination, with at least two of these individuals current Fellows.

F. A person can be nominated no more than 3 times in a 5 year period.

G. Each year the January Council provides a guideline for the number of nominations to appear on the ballot. The Election Committee assembles the ballot from the nominations bearing in mind this guideline, diversity of every kind, and the quality and quantity of the external nominations. The Election Committee has the discretion to make nominations itself if necessary to fulfill the general goals of the fellowship.

H. The ballot is available electronically (only) and voting is conducted throughout the month of September of each year. The Curriculum Vitae and citation for each candidate will be available to all eligible voters. Election is by plurality with the top one-half of the candidates elected. In case of a tie, more than one-half of the candidates may be elected.

I. Those nominees elected are invited by the President to become new Fellows of the AMS as of January 1 of the following year.

III. Initial Implementation

A. In the initial year of the program, all eligible AMS members who have done one or more of the following are invited to become AMS Fellows.[2]
1. Given an invited AMS address (including at joint meetings).
2. Been awarded an AMS prize.
3. Given an invited address at an ICM.

B. An additional 50 Fellows are selected by a committee appointed by the President with the advice of the Executive Committee of the Council. Particular attention will be paid to selecting AMS members recognized for their contributions to education and service to the profession.

C. For the initial "seed pool" of Fellows there is no length of AMS membership required. Any person who falls into one of the three categories above, and who is an AMS member during the year in which this program is initiated will be invited to be a Fellow.

D. At least ten (10), but no more than fifty (50), new Fellows are elected each year until the total number of Fellows reaches 95% of the targeted size of the Fellowship.[3]

Changes from January 2006

1. Many of the endnotes in the previous version concerned the process by which a proposal would be shaped. Most have been eliminated. Those that elucidate the proposal have been converted to footnotes.

2. The portion of the boxed introductory material addressed to the Council was abbreviated to include only a list of goals.

3. The language of I.A has been simplified. It previously read:
> "The Fellows program of the American Mathematical Society recognizes members who have made outstanding contributions to the creation and exposition of mathematics through original research and publications. Exceptional contributions to the teaching of mathematics or service to the mathematical profession may also be recognized."

4. The membership criterion in I.C for eligibility has been simplified. (The term "nominee" member confused some readers, and it seems unnecessary to explicitly exclude students from possible election.) It previously read:
> "All AMS members except student and nominee members are eligible to be elected Fellows."

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[2] The seeding process described in III.A would produce offers of Fellows status to more than 800 current AMS members. The group of Invited Speakers also includes approximately 400 additional individuals who are not currently AMS members.
[3] If 1,000 Fellows are named through the initial seeding, then we estimate that a steady state of 1,500 would be achieved in approximately 10-20 years under the proposed plan.

5. The stipulation that the President and Secretary must remain members in order to remain fellows was removed in I.G. (Membership is not a requirement to remain a fellow in any other part of the program.) This item previously read:

> "If they are not already Fellows, the AMS President and Secretary are made Fellows when they take office. They remain Fellows so long as they remain members."

6. Items III.B and III.C were interchanged to improve the flow of ideas.

7. The language of III.B (formerly, III.C) was clarified to more clearly indicate its goal. It previously read:

> "An additional 50 Fellows are selected by a committee appointed by the President with the advice of the Executive Committee of the Council. The purpose of these selections is to fill the "gaps" left by the initial seeding described above.

Attachment D

AMS Activities That Support Young Mathematicians

Membership
- **Nominee Members**

  The AMS currently provides free memberships to 10,300 full time graduate students who are studying at universities with institutional AMS memberships. About 90% of these Nominee members are at U.S. institutions. Nominee membership includes all normal member privileges such as Notices and Bulletin, and discounts on AMS products and meeting registrations.

- **Entry level and student level dues**

  Currently about 30% of all Regular AMS members pay the "Entry" level dues of $57 (½ of regular low dues). The student/unemployed rate is ¼ of regular high dues.

Employment
- **Employment Center**

  The Employment Center is held each year at the Joint Mathematics Meetings. In 2006, employers used 139 tables to interview a total of 541 job candidates. There are two areas of tables; the traditional computer-scheduled area and the invitation-only "Interview Center." The AMS provides financial support and staffing to the Employment Center.

- **Mathjobs**

  The AMS began administering the Mathjobs.Org automated job application system in 2000, at the request of the original developer, Duke University's Department of Mathematics. In 2006 Mathjobs is being utilized by 62 schools, and thousands of applicants are currently registered. From July, 2005 through February, 2006, 2348 individual applicants made a total of 28,432 new applications.

- **Job ads/Cover letter**

  The job ads in Employment Information in the Mathematical Sciences (EIMS) also appear on the AMS website and are almost universally accessed by job seekers. The AMS Coversheet, introduced over 10 years ago, has become a cornerstone of job application files.

- **Annual Survey**

  The Annual Survey tracks the employment status of new PhDs in the "Employment Experience of New Doctorates" survey, which is the best source of information about the job market for younger mathematicians. The Annual Survey is a joint effort of the AMS, ASA, IMS, MAA, and SIAM. The AMS provides over 80% of the financial support for the survey.

- **Sloan Project: Mathematical Sciences Career Information**
  - **Early Careers Project**

    The AMS recruits and supports a network of mathematical sciences departments that provide job profiles of their recent bachelors-level alumni. These profiles are then linked to the AMS website. The Early Career Profile Network is supported in part by the Alfred P. Sloan Foundation under the auspices of the Sloan Career Cornerstone Series.

  - **DVD**

    The "Careers in Mathematics" video, which has recently been reproduced as a DVD, contains interviews with mathematicians working in industry, business and government. Individuals interviewed have come from industrial-based firms such as Kodak and Boeing, business and financial firms such as Price Waterhouse and D. E. Shaw & Co., and government agencies such as the National Institute of Standards and Technology and the Naval Sea System Command.

Fellowships and Grants
- **High school students**
  - **Epsilon Fund—Young Scholars Program**

    In 1999 the AMS started the Epsilon Fund to help support summer programs for mathematically talented high school students. For the summer of 2006, there are 12 programs supported with a total of $80,000.

- o **Karl Menger Memorial Prize**

  The majority of the income from this fund is to be used by the Society for annual awards at the International Science and Engineering Fair.
- **Undergraduate students**
  - o **Math in Moscow**

    U.S. undergraduate mathematics or computer science majors may apply for a special scholarship in the amount of $5,000 to cover some of the costs associated with attendance at this one-semester program at the Independent University of Moscow. Five scholarships are available per semester, with funding provided by the NSF and administered by the AMS.
  - o **Trjitzinsky Prize**

    Each year the Society selects a number of geographically distributed schools who in turn make one-time awards to beginning mathematical students to assist them in pursuit of careers in mathematics. The amount of each scholarship is currently $3,000,
- **Graduate students**
  - o **Mass Media Fellowship Program**

    In affiliation with the AAAS, the AMS sponsors one fellowship per year for a graduate student in the mathematical sciences to work full-time over the summer as a reporter, researcher or production assistant in U.S. mass media organizations -- radio and TV stations, newspapers and magazines. The program is intended to strengthen the connections between science and the media, to improve public understanding of science, and to sharpen the ability of the fellows to communicate complex scientific issues to non-specialists.
- **Post-doctoral mathematicians**
  - o **AMS Congressional Fellows**

    The AMS, in conjunction with the AAAS, will sponsor a Congressional Fellow from September 2006 through August 2007. The Fellow will spend the year working on the staff of a Member of Congress or a congressional committee, working as a special legislative assistant in legislative and policy areas requiring scientific and technical input.
  - o **NSF Postdoctoral Fellowships**

    The AMS has administered the selection process each year for the National Science Foundation for about 25 years.
  - o **NExT Fellows support**

    Project NExT (New Experiences in Teaching) is a program of the Mathematical Association of America that provides training for young mathematicians beginning their careers. The AMS has provided funding for six fellows each year since 2002.
  - o **Centennial Fellowships**

    The AMS Centennial Research Fellowship Program makes awards annually to outstanding mathematicians to help further their careers in research. Those who are 3 – 12 years past receipt of the doctorate, and hold a tenured, tenure-track, or postdoctoral position in North America are eligible. Two awards will be made for 2006-2007 at US$64,000 each.
  - o **Various travel grants**

    The AMS administers various travel grant programs, usually funded by the NSF, and strives to make a portion of the funds available to mathematicians within 6 years of the doctorate. The most recent example is the travel grant program for U.S. mathematicians to attend ICM2006 in Madrid, Spain. It is expected that approximately 40% of the grants awarded will go to those within 6 years of receipt of the doctorate.

Conferences and Events

- **JMM**

  The AMS jointly sponsors the reception for graduate students and first-time participants at the Joint Mathematics Meetings with the MAA.
- **SRC's**

  Significant support for young mathematicians is a hallmark of AMS conference activities. Two Joint Summer Research Conferences are especially noteworthy in this regard. The 2003

Conference "Commutative Algebra: Presentations by Young Researchers" had a total of 62 participants, 54 of whom were graduate students and new PhDs, with 84% of the support funds going to young mathematicians.   The 2004 Conference "Algebraic Geometry: Presentations by Young Researchers" had a similar profile, with a total of 55 participants, 45 of whom were graduate students and new PhDs, and with 88% of the support funds going to young mathematicians.

- **TA Development using Case Studies**

  These workshops, held in 2002-2004, and at the 2005 and 2006 Joint Mathematics Meetings, focus on the effective use of the case studies method as a tool in preparing Teaching Assistants for their important role as classroom instructors. The AMS organized the workshops with special funding from the Calculus Consortium.

- **Arnold Ross Lecture**

  Each year, the AMS presents a lecture for talented high school mathematics students whose purpose is to stimulate their interest in mathematics beyond the traditional classroom and to show them the tremendous opportunities for careers in mathematics.

- ***Who Wants to be a Mathematician?* Game**

  In this game, high school or undergraduate students compete for cash and prizes by answering multiple choice mathematics questions. The cash prize in each game is donated by the AMS. Other prize donors are: Maplesoft Inc., Texas Instruments, and John Wiley & Sons. The game is a program of the AMS Public Awareness Office and was developed by Mike Breen (AMS Public Awareness Officer) and Bill Butterworth (DePaul University).

Materials

- Brochure**: *A Guide to Online Resources for high school math students***
- Brochure: ***Resources for undergraduates in mathematics***
- Poster: ***What Can I Do With a Math Degree?***
- Posters: ***Mathematical Moments***

AMS Books

- ***Mathematical Publishing: A Guidebook (Krantz, 2005)***
- *A Mathematician's Survival Guide: Graduate School and Early Career Development (Krantz, 2003)*
- *Starting Our Careers: a Collection of Essays and Advice on Professional Development from the Young Mathematician's Network (ed. Bennett and Crannell, 1999).*
- *Graduate Studies in Mathematics series*

Υ Research

a program for young research mathematicians

Young mathematicians are often overwhelmed when beginning their research careers. Many receive little guidance about initiating their research programs, either before or after receiving their doctorates. Many end up in positions at colleges or universities where research is not a top priority. Many are isolated from other active researchers in their own fields or from any researchers at all. Programs exist at individual institutions and at the national level to assist young mathematicians with teaching and teaching juggleing all the many demands of their new careerson their time. But there is no national program that initiates them into a research community, guiding them as they begin life as research mathematicians and form working relationships with other researchers. This is a proposal for the AMS to create such a program.

The proposal combines some of the best traditions of mathematical research -- Summer Research Conferences and special sessions at the winter meeting -- with careful mentoring and a support network. The aim is to give "peridoctoral" mathematicians a head-start on their research careers, and then to help them sustain research as their research programs mature.

The four components
Each annual cycle begins by choosing a small number of relatively broad research areas (most likely four per year). Young mathematicians (defined as those who have recently received their doctorate or perhaps about to receive it) apply to enter the program with support from their departments. There are four key elements of the program.

- Week-long conferences in the summer of year n
  A key feature of this new program will be week-long conferences, with each including two research areas (not necessarily related). The large majority of the participants will be young researchers—mathematicians who have received their doctorates within the past 2-3 years and advanced graduate students. A small collection of senior research mathematicians will give expository talks, but most of the talks will be given by the young mathematicians. There will be concurrent sessions in each specialty as well as sessions for the whole group. The joint sessions may cover mathematics of interest to both groups, but they also will cover general issues of interest to research mathematicians -- grants, refereeing, journals, and reviewing. The conference will be organized by the senior mathematicians, and other senior mathematicians in addition to the organizers will attend.

- Special sessions at the Joint Mathematics Meeting in January $n+1$
  Each research area will have a 4-hour special session planned for the JMM, which all participants must attend. Departments make a commitment to provide travel support to attend the JMM as part of the acceptance process. The senior organizers of each group will apply for a special session in the spring of year n. The organizers and speakers of the special session will be identified from among the young researchers at the summer conference. Names of speakers for the session will thus be available by the end of September in year n. Young mathematicians will benefit in many ways from attending the JMM—renewing ties with the other young researchers from the summer conference and gaining a larger view of the mathematics community.

- Mentoring programs in years n through $n+2$
  Every young mathematician in the program will be assigned a mentor who is an active mathematician in the same research area. The assignment does not have to be one-to-one; each interested senior mathematician may mentor several young researchers. The senior mentor will not work at the same institution as the young mathematician. It is hoped that mentors will continue their roles beyond the three-year period, and that, as the program cycles through several generations of young researchers, "graduates" of the program will serve as mentors.

- Discussion networks
  The AMS will set up a private discussion board for each research specialty, to allow open conversations. The discussion board will be monitored by the senior mathematicians of each research area.

Some issues
A small group of active senior mathematicians will oversee the program for each research area. They organize the summer conference (and invite additional senior people), make arrangements for the special session, enlist mentors in the specific research area, and monitor the private discussion board. That's a great deal of work, and it's likely these people will need some compensation.

The entire program will need an advisory board, which likely should be small and highly involved. The AMS staff will provide support. The Meetings and Conferences Department will handle the logistics of the summer conferences and special sessions. The executive staff member assigned to the overall program will be the Associate Executive Director for Meetings and Professional Services.

How many participants should be in each research area? Roughly twenty seems to be about right. How many senior mathematicians? Too few will place an extra burden on these people; too many, however, will add extra complexity. Roughly Around three seems to be the right number. If there are four research specialties each year, about 80 young mathematicians will enter the program each year.

There will be substantial costs for this program. The Society will apply for funding from the National Science Foundation, arguing that such a program is an excellent investment in mathematical research. It is in fact a bargain as well. For an annual amount far less than a typical VIGRE grant, this program will nurture the research careers of far more young mathematicians than are in any single department. Over time, it could touch nearly all areas of mathematics and prepare a future generation of researchers.

What's the goal of such a program? It's not merely running some additional workshops in the summer or special sessions at the JMM, and it's more than giving young mathematicians good advice about how to apply for grants or juggle their careers. Over the long run, this program will create cohorts of young mathematicians in specific areas of mathematics that, one hopes, will sustain themselves over many years, fostering joint research and coherent research programs. for young mathematicians. Four new cohorts each year will make a profound difference for mathematics. Decades of interaction with the colleagues one meets in such a program will make an even greater difference to these young mathematicians.