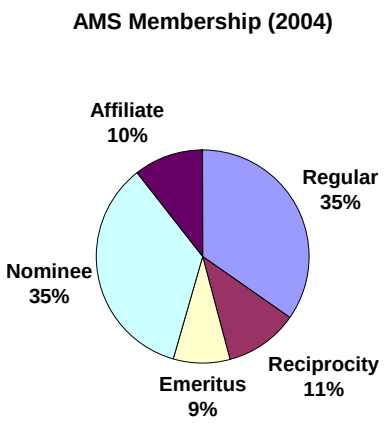
# State of AMS 2005

When I report on the AMS each spring, I try to examine the Society from one particular perspective—publishing, public awareness, Mathematical Reviews, etc. This year, I want to look at the Society from several perspectives at once, to understand how various groups of members see the AMS, each in a slightly different way. In many respects, seeing the Society through different eyes is the very best way to see it.

**Overview**

It is easy to forget that the AMS is a complicated mosaic. In 2004, there were 29,538 members of the AMS. But only 10,300 of these were "regular" members (we used to call them "ordinary" members but renamed them this year). More than 3,200 were reciprocity members; nearly 3,100 were affiliate ("Category-S" from developing countries); over 10,300 were nominee or student members; and 2,600 were emeritus or life.




Our members come from all over the world—31% are from outside the U.S. They hold many different types of jobs (only 55% are Assistant, Associate, or Full Professor). And the percentage of members who are women now exceeds 17%. Of our regular members, about 21% are under 40, 49% are in the range 40-60, and 30 % are older than 60. (In 1987, the corresponding percentages were 32%, 58%, and 10%—we are getting older!)

People often ask questions about an "AMS member": What does a member want? How does a member feel about some program? Why does a member react in some way? There are no simple answers to these questions ... because there is no such thing as an "AMS member".

**Common Views**

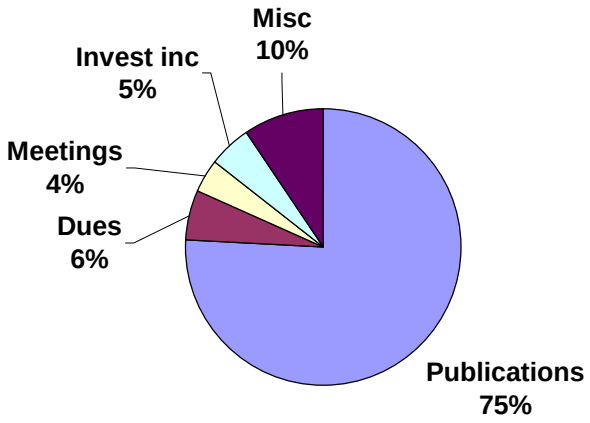
How does an AMS member view the Society? While there is no single answer, there are some views that are shared by nearly every member. Our member publications, the *Notices* and the *Bulletin*, are circulated to more mathematicians than any other mathematics journal in the world. They communicate mathematical news, professional information, high-level exposition, as well as a record of the Society's governance. They tie together all parts of the Society, and more broadly the mathematical community itself.


Almost all members view the Society as a publisher. The AMS publishes a dozen of its own journals and distributes others. It has more than 3,000 books in print, including research monographs, proceedings, history, and textbooks. And the AMS maintains the Mathematical Reviews database, along with sophisticated software for accessing that database online. In 2004, we added more than 85,000 new items to that database, compiled and selected by more than 70 staff in our Ann Arbor office.

As part of its publishing program, the Society maintains its own warehouse and printing plant. It has a large staff to develop electronic products (and to maintain them!). It has editors and graphics specialists and bibliographic experts and TeX specialists—all these to produce its many publications, both print and electronic.

Producing the products is only half of publishing, however. We have to market and promote our products, and we have greatly expanded our efforts at every level in recent years. For Math Reviews, marketing *MathSciNet* to consortia has been remarkably successful: In 10 years, the number of institutions with access to Math Reviews has more than doubled. We have greatly extended our marketing for books as well, and we reach more markets in more parts of the world than ever before. In recent years, about half of our publishing revenue comes from North America; the rest comes from Europe (20%), Asia (20%), and the rest of the world.

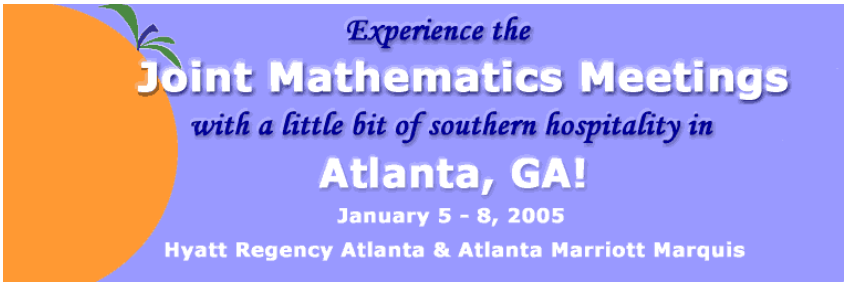
**AMS Operating Revenue (2004)**



Our publishing program makes a profit. We use that profit to fund our other programs—everything from support for mathematicians in the developing world to public awareness. In that sense, even when members aren't using our publications, they are benefiting from them.

**Regular Members**

How do regular members see the Society? Of course, for many members, meetings play a big role in their mathematical life. The 2005 Joint Meeting in Atlanta was the third largest in history (counting mathematicians in attendance). The number of special sessions was unusually large. The general level of activity at the Joint Meeting continues to increase, year by year. Our eight sectional meetings attract many attendees (almost 2500), including many young mathematicians and graduate students. Few members attend meetings every year, but for nearly all, meetings have played a role in their professional lives.




Summer research conferences, which are funded by NSF and carried out jointly with the Society for Industrial and Applied Mathematics and the Institute for Mathematical Statistics, have also been important for many members. During the past five years, there have been 28 conferences, each one or two weeks long, on everything from string theory to fast algorithms to Radon transforms. These have attracted mathematicians from every part of mathematics, and many have focused on young mathematicians at the beginning of their careers. There will be six more conferences in 2005 (but beyond this year, the program of research conferences may end because of a lack of funding).

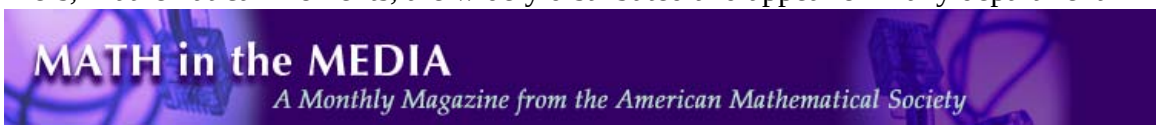
JOINT SUMMER RESEARCH CONFERENCES
AMS ims siam

In addition to our regular research conferences, the Society holds larger and longer "institutes" from time to time. One that has become a tradition, in Algebraic Geometry, will take place during the summer of 2005.

Regular members of the Society also may see the Society through its Washington Office, which is headed by Sam Rankin. Over the past ten years, the AMS presence in Washington has become more visible and more effective. The annual meetings of the Committee on Science Policy and Committee on Education have become forums in which policy makers

and mathematicians can learn from each other. Many department chairs now attend one or the other of these meetings. We administer various programs through our Washington office, including the Chairs Workshop at the Joint Meeting and the Mass Media Fellows Program (in which we support a graduate student who works at a media outlet for a summer). During the coming year, we will also support a Congressional Fellow—a mathematician who will work for a year, most likely in a congressional office, learning about policy and helping others to learn about scientific research. Most importantly, our Washington presence allows mathematicians to be part of the policy discussions that take place regularly in Washington, not at the highest levels of government but among the representatives of scientific societies.

Public awareness is an area that is often important to regular members. In recent years, the AMS has been much more active in public awareness. Our public awareness website (www.ams.org/public-awareness ) has become a valuable resource for many, and the Math in the Media feature has much first-rate exposition. The sequence of one-page fliers, Mathematical Moments, are widely distributed and appear on many department




walls, as well as in high schools. The game show Who Wants to be a Mathematician has engaged groups of high school students and their teachers throughout the country. Increasingly, members seem to comment about all these things and recognize the value of public awareness in their own mathematical lives. That's one of the main goals of the effort.

None of these things are exclusive to *regular* members, of course, but they may be more important to regular members, and they seem to be the ways in which regular members most often interact with the Society.

**Reciprocity Members**

Reciprocity members also value all the things mentioned above, but they are likely to interact with the Society's programs in slightly different ways as well. These are members who belong *first* to another society—one outside the U.S.—and they most likely have an international focus that is most influenced by certain of our programs.


Each year, the AMS holds a joint international meeting with one or more mathematics societies outside of the U.S. In the past five years, we've held meetings in Denmark, Hong Kong, France, Italy, Spain, and India. We will have a joint meeting in Germany the summer of 2005, and there will be a meeting in Taiwan in December. In addition to these, the AMS holds joint meetings with the Mexican Mathematics Society every three years—events that have

become a regular part of mathematical life for the two countries.

For many years, the AMS has supported the International Mathematical Union and the quadrennial international congress in various ways. We have administered a system of travel grants, funded by NSF, for young American mathematicians and invited speakers to attend the congress. We have indicated our willingness to continue this practice for the next congress (provided NSF makes an award). The Society has recently become an affiliate member of another international organization, the International Council for Industrial and Applied Mathematics (ICIAM), in order to support international mathematics of every kind.

The international nature of many AMS programs can be seen by sampling just two. Our Math in Moscow program is funded by NSF, and supports about five undergraduates each semester who spend the time at the Independent University of Moscow, working in an intense mathematical environment (in English). This academic year, we were able to support 13 students (4 of them female) who continue to rave about the experience. The Ky Fan China program fosters exchanges between mathematics departments in China and the U.S. The exchanges go both ways, bringing Chinese mathematicians (especially young ones) for visits to the U.S. and funding trips for American mathematicians to visit Chinese departments. In 2004 there were four such exchanges; for the coming year, the number of applications has increased dramatically. This is funded through a gift of Professor Ky Fan to the Society, made in 1999.


Of course, our publishing program is still the way in which members, international or not, interact with the Society—and not merely by reading our publications. During the past five years, more than half the papers published in our journals had no U.S. author. That's a remarkable fact, which those who debate the future of journals often ignore. Our books too come from authors throughout the world, and beginning next year we will have an acquisitions editor specializing in acquisitions in Europe.

**Affiliate Members**

Affiliate members (the name used to be "Category-S") are mathematicians in certain developing countries who are eligible to join the Society at a special rate—$16 per year. They can subscribe to either the *Notices* or the *Bulletin*, and otherwise receive full benefits. Most of these members see the AMS through the *Notices* (the choice of almost all), and indeed the *Notices* is often their primary contact with the broader mathematical world.

For many years, the Society has supported the International Mathematical Union by soliciting donations from members. In the past five years, we have collected nearly $110,000. That money helps to support young mathematicians from the developing world

to attend the International Congress, and it represents an important commitment from thousands of AMS members.

The AMS Book and Journal Donation Program is supported by donations from the Alan and Katherine Stroock Fund. It matches donors of certain kinds of journals and books with recipient institutions or libraries in developing countries, and then pays for shipping. In recent years, the Society has brokered donations to Argentina, Armenia, Bulgaria, China, Colombia, Cuba, the Czech Republic, Egypt, Georgia, Hungary, India, Iran, Morocco, Romania, Russia, South Africa, Turkey, Uzbekistan, and Vietnam. This is a modest but extremely effective program.

***Eligible Countries***

Albania, Algeria, Angola, Argentina, Armenia, Azerbaijan, Bangladesh, Belarus, Bolivia, Bosnia-Hercegovina, Botswana, Brazil, Bulgaria, Burkina Faso, Burundi, Cameroon, Central African Republic, Chad, Chile, Colombia, Comoros Islands, Costa Rica, Croatia, Cuba, Czech Rep, Djibouti, Dominica, Dominican Rep, Ecuador, Egypt, El Salvador, Estonia, Ethiopia, Gabon, Gambia, Ghana, Greece, Guatemala, Guinea-Bissau, Guyana, Honduras, Hungary, India, Indonesia, Iran, Iraq, Ivory Coast, Jamaica, Jordan, Kazakhstan, Kenya, Korea, Kyrgyzstan, Laos, Latvia, Lebanon, Lesotho, Liberia, Libya, Lithuania, Madagascar, Malawi, Malaysia, Mali, Malta, Mauritania, Mauritius, Mexico, Moldova, Mongolia, Morocco, Mozambique, Namibia, Nepal, Nicaragua, Niger, Nigeria, Oman, Pakistan, Panama, Papua New Guinea, Paraguay, Peoples Rep of Benin, Peoples Rep of China, Peoples Rep of Congo, Peru, Philippines, Poland, Portugal, Rep of Cape Verde, Rep of Georgia, Rep of Macedonia, Rep of Yemen, Romania, Russia, Rwanda, Sao Tome & Principe, Saudi Arabia, Senegal, Serbia, Sierra Leone, Slovak Rep, Slovenia, So Africa, Somalia, Sri-Lanka, Sudan, Surinam, Swaziland, Syria, Tajikistan, Tanzania, Thailand, Trinidad & Tobago, Tunisia, Turkey, Turkmenistan, Uganda, Ukraine, Uruguay, Uzbekistan, Venezuela, Vietnam, Zaire, Zambia, Zimbabwe

The Society has recently considered various programs for making journals more available to mathematicians in the developing world. One of the most effective of these programs is carried out through the Abdus Salam International Centre for Theoretical Physics in Italy, making it possible for individual mathematicians in developing countries to request specific journal articles, and to receive them by e-mail (which is the only feasible method of receipt in locales with minimal bandwidth). The AMS now participates in this program, along with several other societies.


Perhaps the most important way for the AMS to reach out to mathematicians in the developing world is through Mathematical Reviews. The National Data Access program was established more than five years ago. For each developing country, the program establishes a fee, which depends on various economic factors and makes it possible for

institutions to gain access to Mathematical Reviews in its various formats. The National DAF is now in place for nearly 100 institutions in some 25 countries around the world. Publicizing this program and establishing consortia in the developing world has taken time, but the program is steadily growing.

**Nominee Members**

There are more nominee members than regular, and in some ways that's a hopeful sign. Almost all are graduate students and they are potentially life-long members of the AMS. We should care how these future members perceive the Society. We do.

Many nominee members use the Employment Center, which has changed dramatically in recent years. The old scheduling system is used by fewer than half those using the system. For many, the Employment Center is merely a collection of services, making it easier for applicants to find employers and for institutions to carry out the difficult process of interviewing. At the January 2005 Joint Meeting, there were 539 applicants and 113 employers.

In addition to the Employment Center, the Society now runs another service in cooperation with the Mathematics Department at Duke University. Mathjobs is a computer service that allows applicants, departments, and referees to interact through the web by exchanging documents and making them available to authorized people. The service has grown slowly but steadily over the past several years. This past year there were 50 employers using Mathjobs, with 3,881 applicants submitting materials. This produces some impressive numbers—21,058 documents uploaded by applicants; 5,186 letters of reference uploaded by writers (and another 7,538 scanned in by departments); and a total of more than 22GB of data now in the system.

Employment Center Resource Tables

MathJobs.Org
*The fast way to apply*

For many nominee members, the annual survey from the Society is crucial. It provides information about the state of the profession, especially for young mathematicians. And reading through reports from several years provides an accurate view of the profession that nominees very much need.

Many of the programs carried out by the Society affect students, often before they ever become nominee members. Our Young Scholars Program continues to provide grants to summer programs for talented high school students. The goal of a 2 million dollar endowment is about 75% completed. The Arnold Ross Lectures provide an opportunity

for high school students to interact with a research mathematician each year, normally at a science museum. The Trjitzinsky scholarships (6-8 each year) are awarded to undergraduate mathematics majors. And most recently, the Society has begun an effort to help departments collect profiles of their mathematics majors and post them on the web. So far, 25 departments are participating, supported by small awards from a Sloan Foundation grant. The AMS will link together all sites in a searchable database. These and many more programs and resources are found at the employment website, www.ams.org/employment.

**Early Career Profiles:**
**Recent bachelors-level graduates in the mathematical sciences**

**The Real AMS**

News, exposition, journals, books, *MathSciNet*, advocacy, awareness, exchanges, jobs, surveys, scholarships, prizes, ... Which is most important? Of course, none is. Each is just one perspective of a complicated organization; each emphasizes some parts of the Society and values certain of its parts; each presents the Society in a special way to special people. Which is the real AMS? They all are, and that's what makes the AMS a healthy organization—the fact that it can be many things to many people.

*John Ewing*