

La Société Mathématique de France

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Mathematics is an international adventure, and mathematicians are accustomed to cooperating with colleagues all around the world. The Irish Mathematical Society and the Société Mathématique de France have decided to develop their exchanges. Presenting oneself is a first step. A similar article about the Irish Mathematical Society appears in the *Gazette des Mathématiciens*.

The SMF

The Société Mathématique de France was created in 1872 by Michel Chasles. He became the first president of the SMF, elected for one year. The SMF statutes, published in the first issue of the *Bulletin de la Société Mathématique de France*, state that the purpose of this learned society is to promote the progress of science and to propagate studies in pure and applied mathematics. This is done through programs of the society and publications by its members.

Our society was created to provide links among French mathematicians. At the time the SMF was founded, this was a quite small community, almost of a familial size. Due to the expansion of mathematics, the number of mathematicians working in France today exceeds 5000 (according to the list that appeared in the latest edition of the *World Directory of Mathematicians*), and our society now includes around 2000 members.

Publications

From the beginning, an important activity of the SMF has been mathematical publication. In 1873, just one year after the SMF was created, the first issue of the *Bulletin de la Société Mathématique de France* appeared. Today, in addition to the paper version, an

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electronic version of the *Bulletin* is available for subscribers of the printed issues. Our collection of publications has progressively enlarged. Begun in 1964 as a supplement to the *Bulletin*, the *Mémoires* are mainly devoted to monographs. *Astérisque*, created in 1973 on the occasion of the first centenary of the SMF, publishes monographs as well as proceedings of major international conferences and Bourbaki seminars. The *Revue d'Histoire des Mathématiques* was founded in 1995. Other series are *Panoramas & Synthèses* (survey monographs at a high level), *Cours Spécialisés* (courses at the graduate level for doctoral students), and *Séminaires & Congrès* (the electronic version of which is freely accessible on the SMF web site). A new series, *Documents Mathématiques*, was recently started: the first volume, published in 2001, contained correspondence between Alexandre Grothendieck and Jean-Pierre Serre. That volume has been quite successful, and a French-English version has now appeared, published by the AMS. Besides these series, sporadic volumes have been published by the SMF, in particular a reprinting of the Bourbaki Seminars from 1948 to 1968. Our society is now the main publisher in France of mathematical books and journals at a high level. A large percentage of this material is in French, as the great tradition of publishing mathematics in the French language is still alive: for example, Laurent Lafforgue wrote all his papers in French.

Digitization is a concern of all publishers nowadays. SMF has an agreement with the NUMDAM program (Numérisation de Documents Mathématiques), which is led by the Cellule MathDoc and participates in the international project of the Digital Mathematical Library.

The CIRM in Luminy

Mathematicians need to work together, either in small groups, or by participating in conferences. This is why the SMF created the Centre International de Rencontres Mathématiques (CIRM) in Luminy in 1981. This centre is comparable to Oberwolfach in Germany or the Banff International Research Station in Canada. At the CIRM, the superb mountain setting of those two institutes is replaced by the proximity of the Mediterranean Sea and the calanques, but the main idea is the same; namely to offer to mathematicians the best possible conditions for working together. The CIRM mathematical library is the biggest in the south of France (70,000 volumes),

and a number of journals are obtained through exchange agreements with the SMF.

As a centre for research and training, the CIRM organizes international meetings, bringing together mathematicians and researchers in related fields (like theoretical physics, computing, artificial intelligence, information theory, and mathematical biology) from France and all over the world. Fifty meetings are organized every year and 2400 people attend them. Also, the CIRM provides training for young researchers through intensive courses or summer courses. The centre's capacity was recently increased, and more than 60 people can now be accommodated. A new program of the "Research in Teams" type was started in 2001 and offers scientific and housing facilities for small research groups. The CIRM is continuing to expand its activities, and its new auditorium is now operational.

Meetings

Unlike many mathematical societies, we do not run a big annual conference. Instead we have a "Journée Annuelle", traditionally one Saturday in the middle of June, during which the official yearly General Assembly takes place, followed by scientific activities featuring 3 or 4 lectures on a topic of general interest. We recently decided that every other year the Journée Annuelle will take place outside Paris. For instance, the recent topics have been "Operations Research" in 2004, "Mathematics and Physics" in 2005 in Strasbourg, "Mathematics and Vision" in 2006.

Every other year at the "Journée Annuelle" the SMF awards its Prix d'Alembert in recognition of a work that raises public awareness of mathematics. Since 2002, we have also awarded at the same time the Prix Anatole Decerf of the Fondation de France, whose aim is to promote the pedagogy of mathematics. Four years ago we celebrated World Mathematical Year 2000 by awarding four special prizes, Prix d'Alembert des Lycéens, for lectures on mathematics that could be understood by high school students.

Mathematical research is growing at high speed, and it is of fundamental importance to keep informed of new developments. This is why the SMF organizes on a regular basis the so-called "sessions de la recherche", where specialists in a given subject introduce the state of the art to other mathematicians and to graduate students. There have been two sessions in 2006: "Some aspects of polynomial

dynamical systems” in Rennes and “Conformal geometry and geometric operators” in Cergy. Many of these lectures are published in *Panoramas & Synthèses*.

We run a number of international conferences with other learned societies: the first one took place in Lyon in July 2001 and was a joint conference with the AMS. The next one took place in Nice (February 2003) with the European Mathematical Society and the Société de Mathématiques Appliquées et Industrielles (SMAI). A third one was held in Toulouse in July 2004 with the SMAI, the Canadian Mathematical Society, the Canadian Statistical Society, and the Société Française de Statistique. Three smaller joint conferences involving the SMF have been scheduled for 2005, one with the Scandinavian mathematical societies, the other with the mathematical societies of Bénélux. In 2007 we have a joint franco-italian conference in Torino and in 2008 the joint franco-spanish conference will be organized in Zaragossa.

Education

The SMF is active in a wide variety of matters related to mathematics. Therefore problems in education are one of our main concerns. Every year the Committee for Education of the SMF takes initiatives to study matters related to teaching. In October 2005 we organized a Joint Finnish-French conference “Teaching mathematics: beyond the PISA survey” (Programme for International Student Assessment). In October a meeting on the situation of the first three years of math studies at university after the LMD (Licence-Master-Doctorat) reform will be organized. Our electronic forum is a place of lively discussions about teaching issues.

The program of school teaching deserves the attention of professional mathematicians, but it is also important to introduce extra mathematical activities for students: this is the goal of a number of associations created or supported by the SMF, such as Animath and Math en Jeans, where young people enjoy their free time by doing mathematics.

The SMF maintains contacts with organizations like the Association des Professeurs de Mathématiques de l’Enseignement Public, which is an association of high school mathematics teachers, and the Union des Professeurs de Spéciales. The SMF is also one of 14 associations and learned societies that are concerned about the lack of

interest in science among young people and that are acting together by alerting politicians as well as the general public. The shortage of students in science is an important issue and a subject of a number of debates. There is no unanimity on what the solution might be. A number of individual mathematicians are offering their own proposals for curricular reform, while the SMF tries to propose solutions that are likely to be welcomed by a large majority of scientists.

Relations with Other Learned Societies

The SMAI, was founded in 1983 by a group of French applied mathematicians. Our two societies have close links, and a number of joint activities are taking place. France hosts the Centre International de Mathématiques Pures et Appliquées, which organizes schools in many developing countries, and our societies support this activity; lack of funding is always the main difficulty, despite the support of UNESCO.

Another joint activity of the SMF and the SMAI is oriented towards young mathematicians. The group Opération Postes aims to distribute widely and in real time information related to open positions (for professors or *maîtres de conférences*). The French bureaucratic system for filling academic positions is somewhat complicated and would take a good deal of space to explain. Indeed, this system is usually modified every few years, so the current one may change in the near future.

Popularizing mathematics is one goal of our society. For many years such activity was not well supported by leading French mathematicians. That situation changed 12 years ago, when Jean-Pierre Bourguignon was president of the SMF. World Mathematical Year 2000 had a strong positive effect on such activities. The above-mentioned prizes of the SMF also contribute to this goal. In addition, a booklet called *Explosion des Mathématiques* was released in July 2002, thanks to the joint efforts of the SMF and the SMAI; the purpose is to promote mathematics to a wide audience. The booklet may be downloaded for free on the server of the SMF and has been translated in several languages: finnish, italian, farsi, and currently english and hindi. With the SMAI, the group Femmes et Mathématiques, and the Société Française de Statistique, we prepared another similar booklet devoted to careers in mathematics.

A successful joint SMF-BNF (Bibliothèque Nationale de France/French National Library) program “One text, one mathematician”

was launched in 2005? Four lectures per year attract several hundred attendees: the lecturers have been D. Zagier, J.-C. Yoccoz, P.-L. Lions, A. Connes, Y. Meyer, M. Audin, E. Ghys, E. Bayer.

Nowadays communication plays an essential role in all that mathematicians do. When it comes to communication within the French mathematical community, the *Officiel des Mathématiciens* (which has been freely available on the web site of SMF since 1998) provides information on seminars in France, while our *Gazette des Mathématiciens* brings information on different topics of interest for our members.

Our website <http://smf.emath.fr> provides a wealth of information about our society, including a directory of members, on-line order forms for books and journals, and information about our publications, conferences, and meetings.

FURTHER INFORMATION:

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