

CHARTER RENEWAL APPLICATION

This CHARTER RENEWAL APPLICATION applies to the SIAM Activity Group on Financial Mathematics and Engineering (SIAG/FME). The SIAG/FME was originally formed under the aegis of SIAM on December 7, 2002 by the SIAM Board of Trustees and on March 26, 2003 by the SIAM Council with its initial operating period beginning January 1, 2003 and ending December 31, 2005. Its charter has been renewed by the council and board three times thereafter. This SIAG has 795 members as of December 31, 2009.

According to its Rules of Procedure, the objective(s) of the SIAG are:

- To foster collaborations among mathematical scientists (including probabilists, statisticians, functional analysts interested in stochastic control and dynamic programming, numerical analysts interested in the numerical solution of parabolic PDEs), computer scientists, computational scientists, and researchers and practitioners in finance and economics;
- To foster collaborations in those areas of research related to theory and to the development and use of mathematical and computational tools in quantitative finance in the public and private sector;
- To promote and facilitate the development of financial mathematics and engineering as an academic discipline.

Within the framework of SIAM, the SIAG/FME will conduct activities that implement its purposes.

Its proposed functions are:

- 1) Organize minisymposia at the SIAM Annual Meeting on years where there is no SIAG conference.
- 2) Organize a track of at least six minisymposia at the SIAM Annual Meeting at least once every five years. The SIAM Vice President for Programs and the SIAM Vice President at Large will coordinate the scheduling with the SIAG/FME Chair.

Other activities can include:

- 3) Broker partnerships between academia, industry, and government. The SIAG will seek to facilitate the establishment of academic programs in FME and to foster its development as an academic and research discipline. The SIAG also will facilitate the placement of undergraduate and graduate students in internships in industry and government.
- 4) Work with other societies (such as the AMS, IMS, and INFORMS) to promote financial mathematics and engineering. The SIAG will work with other professional societies and industry groups to promote FME. For example, SIAM and another society might organize a workshop on a topic of mutual interest. The SIAG also would attempt to increase government support for FME through various outreach activities.
- 5) With the approval of the SIAM Program Committee, the SIAG may organize special sessions at SIAM meetings, and conduct special one- or two-day meetings immediately before or after a regular SIAM meeting. Other SIAG meetings may be organized only with the approval of the SIAM President and Vice President for Programs.

The SIAG/FME has complemented SIAM's activities and supported its proposed functions. The answers to the questions below indicate how this was accomplished and what the officers propose as the future directions for the SIAG.

1. How is the field covered by the activity group doing? Is it growing, is the focus shifting? What have been the significant advances over the last three years?

The field of Financial Mathematics & Engineering continues to be one of the most vibrant fields in applied mathematics. The recent financial crisis has highlighted the need for sound quantitative understanding. It has also highlighted the need to work on new directions that are related not only to quantitative risk management but, also, to institutional knowledge, operational and systemic risks, and regulations. A key goal of the activity group is to foster collaboration with regulatory authorities and other organizations governing financial markets and institutions. We have strong ties with the proposed National Institute of Finance/Office of Financial Research (NIF/OFR), whose creation SIAM has endorsed.

At the same time, the SIAM Journal on Financial Mathematics, launched in November 2008, is doing very well in terms of number and quality of submissions, testifying to a fast developing and very active research field.

2. How is the activity group doing? Is it remaining vibrant? Is the size of the SIAG stable or increasing? How is the SIAG keeping up with the changes in the field? How are the broader interests of SIAM reflected in the activities of the SIAG?

The membership has increased from 503 to 795 in two years. The percentage of student members is 68%, and industry 30% of non-student members. In light of issues raised by the financial crisis, we will have a session on systemic risk at the upcoming SIAG conference in November 2010. The new journal (whose creation was spurred by large interest from the SIAG members) has connected Financial Mathematics to the wider SIAM community, and we look forward to having the next SIAG meeting at the 2012 SIAM Annual meeting -- this was very successful in 2006.

3. Please list conferences/workshops the activity group has sponsored or co-sponsored over the past three years, and give a brief (one sentence or phrase) indication of the success or problems with each.

SIAG/FME Meeting at New Brunswick NJ, November 2008. Over 170 attendees, lively panel discussion on the ongoing financial crisis, details covered in a number of SIAM News articles.

4. Please indicate the number of minisymposia directly organized by the activity group at the last two SIAM annual meetings. When did the SIAG last organize a track of minisymposia at an annual meeting?

No formal session were organized at the SIAM meeting in Denver 2009, but individual members participated. The last track of minisymposia at an annual meeting was in 2006 (Boston).

5. Please indicate other activities sponsored by the activity group, to include newsletters, prizes and websites. Have each of these been active and successful?

The SIAG/FME Junior Prize was established in 2009. The first prize will be given at the meeting in San Francisco 2010. The prize committee is in the process of selecting the first recipient of this prize.

6. What activities are planned and proposed for the next period of the charter? Please describe scheduled and suggested future activities in detail.

SIAG/FME Conference in San Francisco, 19-20 November 2010. On Nov. 18, a practitioners oriented tutorial will be offered.

The SIAG/FME program director is organizing a session on "Financial Mathematics and Economy" at the First North American Meeting on Industrial and Applied Mathematics, which will be held on December 8-10, 2010, at the Universidad del Mar, Huatulco, Oaxaca, Mexico. The meeting is cosponsored by SIAM (US), SMM (Mexico) and CAIMS (Canada).

A track of minisymposia will be organized at ICIAM 2011, Vancouver.

7. How can SIAM help the activity group achieve its goals?

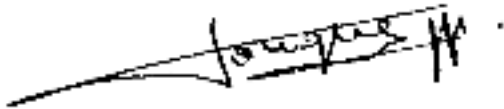
The SIAG provides the main Financial Math conference in the US every two years. This is central to the development of the field in the US. SIAM's strong support for this event is crucial. In fact, it would be extremely helpful to make this event three-day long with more invited plenary speakers.

8. How can the activity group help SIAM in its general role of promoting applied mathematics and computational science?

Financial Math is a popular subject for promoting applied and computational math (especially PDEs and stochastic processes) among students, both undergraduates and graduate students. The financial industry, despite its turmoil remains a major employer of Math PhDs, and the SIAG's strong connections with industry give SIAM inroads into promoting applied mathematics there.

This SIAG requests that the SIAM Council and Board of Trustees renew its charter for a two-year operating period beginning January 1, 2011.

Signed
Jean-Pierre Fouque
June 10, 2010

A handwritten signature in black ink, appearing to read "Jean-Pierre Fouque", written over a horizontal line.