

Pro Forma CHARTER RENEWAL APPLICATION

This CHARTER RENEWAL APPLICATION applies to the SIAM Activity Group on Computational Science and Engineering. The SIAM Activity Group (or SIAG) to which this renewal applies was originally formed under the aegis of SIAM on December 1, 2000, by the SIAM Board of Trustees and by the SIAM Council in mid-December 2000 by e-mail vote with its initial operating period beginning January 1, 2001, and ending December 31, 2003. This is the first charter renewal application the SIAG has presented to the council and board. This SIAG has 558 members as of May 15, 2002.

According to its Rules of Procedure, the objective of the SIAG is to foster activity in the area of computational science and engineering. Its goals are:

- To foster collaborations among applied mathematicians, computer scientists, domain scientists and engineers in those areas of research related to the theory, development, and use of computational technologies for the solution of problems in science and engineering.
- To promote and facilitate Computational Science and Engineering (CS&E) as an academic discipline.
- To promote computational simulation as a peer to theory and experiment in the process of scientific discovery.

Its proposed functions were to promote and facilitate CS&E through a variety of activities, including:

- Organize a biennial SIAM Conference on CS&E. This conference will be modeled after the SIAM Conference on CS&E held in 2000. The SIAG also will consider dovetailing specialized workshops and conferences with the SIAM Annual meeting.
- Broker partnerships between academia, industry, and government laboratories. The SIAG will seek to facilitate the establishment of academic programs in CS&E to foster its development as an academic discipline. The SIAG also will facilitate the placement of undergraduate and graduate students in internships in industry and government laboratories.
- Work with other professional societies to promote CS&E. 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 CS&E through various outreach activities.
- Disseminate information. The SIAG will publish a newsletter and maintain a Website to facilitate the exchange of information among its members and other interested parties.

The SIAG 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?

CS&E is a dynamic and exciting discipline. It continues to grow through strong programmatic support by various funding agencies such as the NSF ITR, DOE ASCI, and DOE SciDAC programs. Academia also is keenly interested in CS&E as evidenced by the growing interest in creating CS&E programs and department. It clearly is a key area for the future of SIAM.

2. How is the activity group doing? Is it remaining vibrant? Is it keeping up with the changes in the field? What is the role of mathematics, industry, and interdisciplinary activity?

This new SIAG is off to a good start. The membership drive has just gotten underway via SIAM's membership renewal process; interested parties also can join via a web form from the SIAM web pages. Already, we have more than 500 members! Members are drawn from all segments of SIAM's constituency: academia, labs, and industry.

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-CSE is organizing the CSE2003 meeting to be held in San Diego in February 2003. This will be based on the successful CSE2000 meeting that attracted nearly 500 attendees, and we expect even more attendees for CSE2003. Omar Ghattas chairs the Organizing Committee.

We are involved in the SIAM annual conference and have organized a special topics minisymposium comprised of numerical analysts and computer scientists who have developed software tools and the application scientists using those techniques to demonstrate the interdisciplinary nature of CS&E to SIAM50 attendees.

Other professional organizations such as ASME have indicated an interest in co-sponsoring a workshop or conference, but we are focusing our initial efforts on our main CSE2003 conference.

4. Please indicate the number of minisymposia directly organized by the activity group at the last two annual meetings.

We will have the allowed number (one) at the SIAM 50th meeting. In general, our members make a strong showing at the annual meetings.

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

We have created a web presence at <http://www.siam.org/cse>.

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

Biannual meetings will be the main activity. We will also continue to work closely with annual meeting planners and the SIAG on Supercomputing to ensure that one or more CS&E minisymposia are included in their meetings. We have also discussed the possibility of co-hosting domain-specific workshops to help build relationships between SIAM and various application areas such as computational biology, computational mechanics, et cetera.

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

Additional work is needed to increase our outreach activities to the industrial world. Suggestions on how to best achieve this goal and knowledge of related opportunities within other SIAM activities would be helpful.

We would like an email reflector for our membership that is available to the SIAG officers to post announcements, news items, etc. We would also like to be able to track the domains from which the members are coming (academia, lab, or industry), the total number of members, and spurts in membership growth and decline to better focus our recruitment efforts.

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

CS&E represents a core constituency of SIAM, and a potential source of new members. This SIAG is able to serve the specialized needs of this constituency at a higher level than is practical by SIAM as a whole, primarily by organizing meetings and perhaps other activities directed at the needs of this group of members.

This SIAG requests that the SIAM Council and Board of Trustees renew its charter for a three-year operating period beginning January 1, 2004.

Signed
Steven F. Ashby
July 1, 2002