

CHARTER RENEWAL APPLICATION

This CHARTER RENEWAL APPLICATION applies to the SIAM Activity Group on Dynamical Systems. The SIAM Activity Group (or SIAG) to which this renewal applies was originally formed under the aegis of SIAM on December 2, 1988 by the SIAM Council and December 3, 1988 by the SIAM Board of Trustees with its initial operating period beginning January 1, 1989 and ending December 31, 1991. Its charter has been renewed by the Council and Board six times thereafter. This SIAG had 784 members as of December 31, 2006.

According to its Rules of Procedure, the objective(s) of the SIAG are to bring together researchers working on a variety of problems in dynamical systems and to give them contact with people of similar interests but often different backgrounds. Cross-disciplinary interactions will be catalyzed among workers with interests in dynamics ranging from fundamental properties of dynamical systems to the development of software for use in the study of dynamics to applications to disciplines such as physics, chemistry and engineering. Also, the SIAG will foster interactions between the academic community working in dynamics and workers in industrial and government settings. [Note: The current officers propose revision to penultimate sentence to list "biology, chemistry, engineering, and physics."]

Its purposed functions were to:

- * Organize a biennial SIAM Conference on Dynamical Systems.
- * Organize minisymposia at the SIAM Annual Meeting on years where there is no SIAG conference.
- * At least once every five years either organize a track of at least six minisymposia at the SIAM Annual Meeting or have an activity group meeting held jointly with the annual meeting.

To which have been added

- * To award the John David Crawford Prize and the Moser Lecture; and
- * To develop and foster the dynamical systems web portal DSWeb site for members of the activity group and the public at large.

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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?

Interest in, and attendance at the major biennial Snowbird meeting is modestly growing (to a record 720 in 2007, including SIAM staffers and complementary registrations of invited speakers, etc.). More generally, the broad field of dynamical systems is healthy, and in particular the use of dynamical models in the biological sciences continues to increase. There is also growing interest in stochastic systems. SIAG-DS played an instrumental role in launching the SIADS journal in 2002, and many SIAG-DS members serve on the editorial board of SIADS and/or submit papers to the journal.

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?

Membership in SIAG/DS is healthy: with 784 members, it is the second-largest activity group within SIAM. The 224 student members indicates strong interest among young people in this field. Membership in SIAG-DS has grown in each of the past three years. Membership of the associated web portal DSWeb is automatic with SIAG/DS membership, but also free for others. DSWeb has 2036 members, including 802 students. Thus, there are about 1250 non-SIAG/DS members. DSWeb members represent 84 countries, including many third-world countries. DSWeb therefore serves as a major outreach activity for people who are less able to afford the SIAM membership fees.

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

SIAG/DS organized the Snowbird Conferences in May 2005 and May 2007. The May 2005 conference had 640 attendees, of which 129 were students. The May 2007 conference had over 700 attendees with nearly 700 presentations. Two notable additions to this year's program were: 1) The Association for Women in Mathematics (AWM) held one of their 2 major annual workshops. Twenty women graduate students and postdoctoral fellows were supported by the AWM to attend the meeting, each being paired with an established woman mathematician (mentor). Two special AWM mini-symposia, and a panel discussion on 'shaping your career in mathematics' were incorporated in the program. We hope these activities will help us promote our activity group to early career women mathematicians. In addition the Kovalevsky prize was awarded (to Lai-Sang Young). 2) There was a special panel discussion to discuss promising directions of future research in dynamical systems. SIAG/DS will also organise a track at the 2008 annual meeting.

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 tract of minisymposia at an annual meeting?

No specific minisymposia were sponsored by SIAG/DS at the 2005 and 2006 annual meetings, but one of the themes of the 2006 meeting was Dynamical Systems, and one of the 11 organizers is a member of SIAG/DS (Christopher Jones). (Three others are former members [Carlos Castillo-Chavez, Ricardo Cortez, Mac Hyman]) There were about 7 DS-related minisymposia at this meeting. Some activities that traditionally occur at the SIAM Annual meeting were hosted by SIAG/DS at Snowbird, including the award of the Kleinman Prize (to Sal Torquato) and, as noted above, the AWM activities.

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?

The SIAG/DS web portal DSWeb at <http://www.dynamicalsystems.org> <<http://www.dynamicalsystems.org>> / is a striking success. The major component of DSWeb is the quarterly SIAG/DS newsletter DSWeb Magazine, featuring articles, interviews, book reviews, etc. An announcement and list of contents is emailed every three months to all DSWeb members. In particular, DSWeb offers a dedicated site for announcing DS-related conferences and professional opportunities; this feature is increasingly more popular. Another major component of DSWeb is of an educational nature with a list of DS-related software, a Tutorials site, and a DS Picture Gallery; in fact, this component is responsible for most of the average 7000 hits the site attracts each month.

DSWeb has reached enough momentum that it is time to plan for an organized maintenance structure. Starting with the election for the 2008-10 SIAG officers, the Secretary/Treasurer position will be amended in a style similar to that of Program Director: of the two candidates for Secretary/Treasurer; the person who is elected will also produce

the quarterly newsletter DSWeb Magazine, and the other person will take on the role of overall Portal Editor-in-Chief of DSWeb.

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

In addition to maintaining DSWeb, SIAG/DS plans to organise the following:

- 1) DS track at the SIAM Annual meeting, San Diego, July 7-11, 2008.
- 2) 10th SIAM Conference on Applied Dynamical Systems, Snowbird Utah, 16-20 May 2009.
- 3) 11th SIAM Conference on Applied Dynamical Systems, Snowbird Utah, 22-28 May 2011.

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

Financial assistance on big expenses, such as foreign travel for conference speakers, has been increased. We are grateful for this: it is a significant factor in the Snowbird meetings.

There could be a much more automatic structure of reproducing DSWeb Magazine articles in SIAM News. If SIAM News finds it unacceptable to publish an exact reproduction, then it should be possible to have an advertisement-style announcement --- such an announcement can almost be a standard feature included whenever they find an interesting article on DSWeb Magazine.

As discussed at the 5/29 Snowbird lunch, anything that SIAM can do to emphasize the importance of service on SIAM and SIAG committees, especially in time-consuming activities such as DS Web Magazine/Newsletter, would be helpful. Such community-building activities, often taken on by young people, are important, but tend not to be valued in tenure/promotion cases.

As discussed with former SIAM President Marty Golubitsky and SIAM Executive Director Jim Crowley, we propose to significantly increase the endowment of the Moser Lecture Award, aiming for a \$5000 prize. We propose to solicit substantial donations from senior SIAG-DS members, in the hope that SIAM might provide matching funds.

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

Publicizing the advantages of SIAM membership (especially student membership) for both US and foreign participants at Snowbird, on DSWeb.

This SIAG requests that the SIAM Council and Board of Trustees renew its charter for a two-year operating period beginning January 1, 2008.

Signed

Philip Holmes
SIAG/DS Chair.
June 11, 2007