

CHARTER RENEWAL APPLICATION

This CHARTER RENEWAL APPLICATION applies to the SIAM Activity Group on Discrete Mathematics. The SIAG/DM was originally formed under the aegis of SIAM on July 19, 1984 by the SIAM Council and July 20, 1984 by the SIAM Board of Trustees. Its initial operating period began January 1, 1985 and ended December 31, 1987. Its charter has been renewed by the council and board eight times thereafter. This SIAG has 716 members as of December 31, 2008.

According to its Rules of Procedure, the objective(s) of the SIAG are to foster research in discrete mathematics and the development of its applications, and to bring together and stimulate interaction between the various and diverse communities of mathematical scientists such as those who specialize in combinatorics, computer science, communications, and operations research.

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

Its purposed functions are to:

- 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.

Other activities can include:

- 3) Organize a biennial SIAM Conference on discrete mathematics. The SIAG will consider dovetailing specialized workshops and conferences with the SIAM Annual meeting or other SIAG conferences.

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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 [two/three] years?

The area of Discrete Mathematics is strong and growing, continuing to find application in other disciplines. We are seeing the application of more sophisticated combinatorial methods in bioinformatics; the growth combinatorial scientific computing as a cohesive research area; increasing connections with physics through both statistical mechanics and partition theory; and steady progress in algorithms for discrete optimization, implemented in powerful software tools.

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 SIAG/DM had 716 members at the end of the last calendar year, of which 381 were students (compare to 585 members, including 210 students in 2006). This is by far the highest number over the past 10 years. In spite of the dramatic increase, we are concerned that some of the leaders of our field are no longer members. This was a problem in that SIAG/DM membership was a requirement for, e.g., the Konig prize committee, and for AG office.

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

Our activity group organizes the biennial SIAM DM conference. The last conference was held at the University of Vermont in June, 2008. The conference was successful, attracting 223 attendees, of which 47 were students (compared to the previous meeting which had 354 attendees, including 78 students at the 2006 conference at the University of Victoria in Canada.).

Also, the AG co-organizes the annual ACM-SIAM Symposium on Discrete Algorithms (SODA), which includes SODA 2008, 2009, 2010 during this time period. We officially appoint the SIAM representative to the SODA Steering Committee. The SODA conference remains one of the most prestigious and selective conferences. The last attendance numbers were:

SODA 2007 - 271, of which 95 were students
SODA 2008 - 351, of which 132 were students
SODA 2009 - 359, of which 151 were students

4. Please indicate the number of minisymposia directly organized by the activity group at the last [two/three] SIAM Annual Meetings. When did the SIAG last organize a track of minisymposia at an annual meeting?

SIAG/DM members (led by Lenore Cowen) have organized a track of minisymposia at the 2009 Annual SIAM Meeting (in honor of Daniel Kleitman).

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 executive committee has established a SIAG/DM Denes Konig Prize for young researchers, to be awarded every two years at the biennial SIAM DM Meeting. Through the efforts of Pavol Hell, Google donated \$5,000 in support, which will be used to award a \$1,000 cash prize. Adam Marcus received the first award at SIAM DM 2008.

Also, the newsletter is being published regularly by Ryan Martin and a web archive has been established, with a link from the SIAG/DM web page.

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

The main activity is to prepare SIAM DM 2010 in June in Austin, TX, and to co-sponsor SODA 2010 and 2011. We will also be awarding the second Konig prize at SIAM DM 2010. It is suggested that an international venue be considered for a SIAM DM meeting in the future.

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

Modify the requirements for the Konig prize committee membership to require only that at least three members must be SIAG/DM members.

Help secure permanent funding for the SIAG/DM Konig Prize for young researchers. (Google has provided funds for the first 5 prizes.)

Take a leadership role in pursuing industry support for the SIAM DM conference to reduce registration fees and fund more travel grants for students (e.g. Elsevier is interested.)

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

By organizing minisymposia at the SIAM Annual Meetings, organizing the biennial SIAM DM Conference, co-organizing the SODA conference, and circulating news in its newsletter.

This SIAG requests that the SIAM Council and Board of Trustees renew its charter for a two-year operating period beginning January 1, 2010.

Signed

Carla D. Savage
SIAG Chair
July 4, 2009
