

Guidelines for the Renewal or Termination of SIAGs

When a SIAG is up for renewal, the Charter Renewal Application asks SIAG officers to provide detailed information about the SIAG's activities during its present term as well as specific plans for future activities. A SIAG that has not been active during its present term will not be automatically renewed. Activities may be of various natures according to the SIAG's interests; examples include organization of conferences, a regular newsletter, SIAG participation in SIAM annual meetings, an up-to-date Web portal, etc. Membership is also a clear indication of the health of a SIAG. If a SIAG's membership is dropping, this may indicate that renewal is not appropriate.

SIAG leaders are expected to respond to questions from the SIAM office in a timely way, normally by email, and to organize regular elections following the SIAG Rules of Procedure.

SIAG renewals are reviewed by both the SIAM Council and Board; the renewals take place effective the beginning of a calendar year. Requests for renewal are due no later than June 1 of the previous year so that they may be considered by the Council and Board at their summer meetings. If the Council or Board decides that renewal of the SIAG may not be appropriate, the SIAG officers will be notified during the summer so that they have the opportunity to provide more information to the SIAM office during the fall. This information will be due no later than November 1. The Council will then be polled by email, and if the Council approves renewal, the Board will make a final decision regarding renewal at its December meeting.

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Pro Forma CHARTER RENEWAL APPLICATION

This CHARTER RENEWAL APPLICATION applies to the SIAM Activity Group on Imaging Science. The SIAM Activity Group (or SIAG) to which this renewal applies was originally formed under the aegis of SIAM on December 11, 1999 by the SIAM Board of Trustees and via electronic voting by the SIAM Council in January 2000. Its initial operating period began January 21, 2000 and ended December 31, 2002. Its charter has been renewed by the Council and Board one time thereafter. This SIAG has 295 members as of March 1, 2005.

According to its Rules of Procedure, the objectives of the SIAG are to 1) provide a forum for conferences and scientific interactions between imaging science researchers and practitioners in academics, industry, medicine, and government; 2) encourage research that will provide a rigorous mathematical foundation for imaging science; 3) foster research in mathematics and computation that has the potential for solving real-world problems in imaging science, and leads to new methods and techniques useful in this subject; 4) provide the means for rapid publication and dissemination of novel methods in imaging sciences.

The SIAG will bring together researchers who seek to develop and apply mathematical and computational methods in all areas of imaging science. It will cut across disciplines to catalyze mathematical research relevant to imaging science and rapid diffusion of advances in mathematical and computational methods.

Its proposed function was to organize activities, including conferences at various times and locations, sessions and minisymposia at SIAM meetings, workshops and educational forums to 1) promote interaction among mathematicians, scientists, engineers and others interested in mathematical and computational methods that are relevant to imaging science; 2) foster cooperation on applications of mathematics in imaging science with relevant industries and Government agencies; 3) keep the SIAM membership informed about problems in imaging science that seem amenable to mathematical study; 4) facilitate further development of mathematical methods, software and applications of mathematics to imaging science, and 5) encourage the participation of graduate students in imaging science research.

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The SIAG has complemented SIAM's activities and supported its proposed functions. The activity group held its second conference in May 2004 (Utah), and is going to hold its third meeting in May 2006 (Minneapolis). Participating in the Utah meeting was a bit lower than the one in the first meeting in Boston (location might be one of the factors). The Utah conference, as well as the original one in Boston, achieved a number of unique characteristics:

1. A very broad coverage of *imaging sciences*, beyond what is classically considered by other societies. This is one of the goals and highlights of this SIAG.
2. A broad participations of researchers that usually do not frequent imaging meetings from other societies, in other words, the meeting had a large number of participants which are not "the usual suspects." SIAM is then providing a unique forum for them.
3. The meeting covers a large spectrum of topics, from the medical to the inverse problems. Good participation of industry and national labs, including plenary speakers and members of program committee, was accomplished at the meeting.

We are working on enlarging even further the coverage of the activity group, and this is reflected in the inclusion of a leader in inverse problems as Conference Co-Chair for 2006 (Prof. Natterer, co-chairing with Prof. Osher) and the organization of the meeting in conjunction with the IMA Imaging Year. Information theory is also brought in strongly, e.g., with a plenary speaker at the Utah meeting.

The SIAG has now a well established presence in the imaging community, and is helping to identify SIAM with imaging sciences, an area with significant components of applied and industrial mathematics.. Many journals in SIAM are receiving papers in imaging, and members of this SIAG are contributors, reviewers, and Associate Editors of many of the journals. We want to include even further the participation of members of this SIAG as Associate Editors in SIAM Journals.

Overall, this young SIAG has accomplished its main goals of creating a forum for fundamental and mathematical research in imaging sciences, and has organized two very successful conferences. Some of the problems that need to be addressed during the next period include:

1. The SIAG has not been involved with the SIAM Annual Meeting, and this will be improved in the future.
2. The newsletter and web site have been weak. We will request more help from SIAM in this area.

If renewed, this SIAG will address these issues and will continue to provide the best forum for mathematical imaging sciences.

We should add that a Nominating Committee has been formed for the new officers, and this is composed by Tony Chan (UCLA), Wen Masters (NSF), Emmanuel Candes (CALTECH), Fadil Santosa (University of Minnesota), Michael Unser (EPFL), and myself.

This SIAG requests that the SIAM Council and Board of Trustees renew its charter for a two-year operating period beginning January 1, 2006.

Guillermo Sapiro
Chair, SIAG/IS
