



**Annual Report**  
**ACM Special Interest Group on Symbolic and Algebraic  
Computation**

**SIGSAM**

**July 2007 – June 2008**

**Submitted by: Mark Giesbrecht, Chair**

August 24, 2008

**SIGSAM Communications in Computer Algebra**

The Communications in Computer Algebra has been published since 1965 (previously SICSAM Bulletin and SIGSAM Bulletin). After a number of years of being behind by up to two issues, the CCA is now up-to-date and publishing 4 issues per year on time. Last year we switched to printing and mailing only two double-issues per year, with the four electronic issues appearing through the digital library and SIGSAM website. This is consistent with the wishes of many of our members, and has also improved our financial situation.

**CACM**

The Communications of the ACM is the flagship magazine of the ACM, with a circulation of over one hundred thousand. A re-vitalization effort is underway, with the inclusion of more technical content. One new section will highlight the best research papers of different areas to a broader audience, presenting both the technical paper and a contextual introduction. SIGs were asked to provide a plan for adjudication and submission of articles to this section of the ACM.

In consultation with the Steering Committee of the International Symposium on Symbolic and Algebraic Computation (ISSAC – the premier conference in the area), SIGSAM will select articles after each ISSAC through a committee composed of the past two ISSAC Program Committee chairs, the ISSAC Steering Committee Chair and SIGSAM representative on the ISSAC Steering Committee, and the SIGSAM Chair. Articles will be selected from the previous two ISSACs both for their scientific excellence, and also for their broader impact and appeal.

## Conference and Event Sponsorship

**ISSAC.** The International Symposium for Symbolic and Algebraic Computation (ISSAC) for 2007 was held at the University of Waterloo, Waterloo, Canada, and was fully sponsored by ACM SIGSAM. There was a (probably record) attendance of 193 participants. Despite exposure to currency fluctuations (registration was done by the ACM in USD accounts which dropped approximately 5% over the budgeting/conference period) there was a return of USD 6610 (in addition to the standard ACM allocation).

ISSAC 2008 (at the Research Institute for Symbolic Computation (RISC), Linz, Austria) was held in cooperation with ACM. SIGSAM worked closely with the organizers of the conference in producing materials, including proceedings with ACM Press and digital proceedings distributed on DVDs to SIGSAM members. RISC kindly plans to share any conference revenues they have to support future ISSACs.

ISSAC 2009 will be held at the Korean Institute of Advanced Studies (KIAS) in Seoul, South Korea. Following discussions with the organizers, it is planned to hold this conference co-sponsored between KIAS and ACM SIGSAM.

SIGSAM reserves a portion of its funds (referred to as the *ISSAC contingency fund*, and tracked by the SIGSAM treasurer to support the ISSAC conference series. The level of this *contingency fund* is currently USD 4856.99. This level reflects income and expenses for meetings up to and including ISSAC 2006.

**PASCO, SNC, ECCAD and MICA.** SIGSAM sponsored a number of conferences in cooperation with ACM including PASCO (Parallel Algorithms and Symbolic Computation) and SNC (Symbolic Numeric Computing) conferences. Proceedings were published through ACM Press. SIGSAM also sponsored the annual ECCAD (East Coast Computer Algebra Day) event, and it was held in cooperation with ACM. This meeting is the largest annual North American conference in computer algebra and has been held since 1994. SIGSAM also sponsored the Milestones in Computer Algebra (MICA) in co-operation with ACM. This was a conference in honour of the career of Dr. Keith Geddes, Professor at the University of Waterloo and co-founder of Maplesoft, one of the leading corporate computer algebra vendors.

## Awards

SIGSAM sponsors prizes in computer algebra and nominates our best researchers for top-level awards and prizes.

**ISSAC Awards.** SIGSAM sponsors the ISSAC Distinguished Paper and Distinguished Student Author prizes. This is from an endowment with a value of USD 48,368.31 as of July 1, 2008.

The ISSAC 2007 Distinguished Paper award was given to Hongbo Li (Chinese Academy of Sciences, Beijing) for his paper *A recipe for symbolic geometric computing: long geometric product*. The ISSAC 2007 Distinguished Student Author award was given to Marc Dohm (Université de Nice) for his paper *Implicitization of Bi-homogeneous parametrizations of algebraic surfaces via linear syzygies* (with Laurent Busé).

**Jenks Memorial Prize.** SIGSAM also sponsors and administers the ACM SIGSAM Richard Dimick Jenks Memorial Prize for Excellence in Software Engineering applied to Computer Algebra. As of July 1, 2008, this prize has an endowment of USD 26,256.29. The prize is given out every two years, and will next be awarded at ISSAC 2008.

**Paris Kanellakis Award.** The Paris Kanellakis Theory and Practice Award honours specific theoretical accomplishments that have had a significant and demonstrable effect on the practice of computing. It is one of the ACM's top prizes. SIGSAM nominated Bruno Buchberger (Johannes Kepler University, Linz, Austria) and he was awarded the 2007 prize in June 2008.

## **Transactions on Mathematical Software**

SIGSAM has a seat on the editorial board of the ACM Transactions on Mathematical Software (TOMS). This position is currently held by Gene Cooperman of Northeastern University (USA).

## **SIGSAM Web site**

A major makeover of the SIGSAM website was undertaken, and we are very pleased with the result. See <http://www.sigsam.org>. The new site incorporates all the old content in a more structured way, and adds a large amount of new content, which we feel will be very useful to those in the field. This includes subscription calendars of events (Google and iCal), newsfeeds, new Ph.D. abstracts, job opportunity listings, and extensive archives of conference, journal and books related to the discipline.

## **SIGSAM Membership**

As of June 30, 2008, SIGSAM had 303 members, down slightly from 311 in June 2007 and up from 296 in June 2006.

## **SIGSAM Advisory Board**

The Advisory Board advises the Chair on matters of interest to SIGSAM. It consists of the officers, the Past Chair, the newsletter Editor(s) and up to ten Members at Large elected by ballot by the members of SIGSAM at the Annual General Meeting. At ISSAC 2007 Jean-Guillaume Dumas (Université Joseph Fourier, France) and Michael Monagan (Simon Fraser University, Canada) were elected.

## **SIGSAM Finances**

The following information was prepared by Daniel Lichtblau (SIGSAM Treasurer) and Mark Giesbrecht (SIGSAM Chair).

A summary of SIGSAM's recent financial history, and operational budget for 2007-8, is found in Figure 1 below.

**Finances for 2007-8.** Financial figures for 2007–8 are preliminary. All known income and expenses have been entered. However, additional changes have been made as late as early August in previous years so it is possible that SIGSAM's year-end fund balance will change slightly in the next few weeks.

**Required Fund Balance.** ACM expects its SIGs to maintain a “minimum fund balance.” For the first time in several years, the projected SIGSAM fund balance at the end of 2007–8 will meet this requirement. Since ISSAC was only run in cooperation with ACM in 2008, the required fund balance for 2008–9 dropped substantially. However, the budgeted fund balance for the end of 2008–9 would also have been sufficient to meet the higher requirement associated with full conference sponsorship.

	2004-5 Actual	2005-6 Actual	2006-7 Actual	2007-8 Preliminary	2008-9 Budget
<b>Revenue</b>					
<b>SIG Dues</b>	9736.91	9217.18	8133.98	7811.15	9138.00
<b>Subscription Revenue</b>	4936.81	4289.25	18433.84	1677.72	1701.00
<b>Publication Sales</b>	811.20	1439.25	858.60	824.40	200.00
<b>Digital Library</b>	4788.00	10000.00	10000.00	10000.00	10000.00
<b>Other Revenue</b>	618.93	716.01	1245.31	1372.99	1613.00
<b>Total Organizational Revenue</b>	20891.85	25661.69	23903.68	21686.26	22652.00
<b>Conference Revenue</b>	40544.56	39430.00	60334.83	64567.00	0.00
<b>Total Revenue</b>	61436.41	65091.69	84238.51	<b>86253.26</b>	<b>22652.00</b>
<b>Expenses</b>					
<b>Publication Expenses</b>	9508.93	18797.94	7548.97	3633.69	5380.00
<b>Allocations</b>	10000.00	10439.88	10000.00	10000.00	10000.00
<b>Service Charge to Conferences</b>	-5290.25	-6421.70	-6637.91	-7994.00	0.00
<b>Other expense</b>	2529.29	2516.26	1414.90	1839.74	1983.00
<b>Total Organizational Expenses</b>	16747.97	25332.38	12291.03	7479.43	17363.00
<b>Conference Expenses</b>	34680.58	44196.44	57928.40	53727.01	0.00
<b>Total Expenses</b>	51428.55	69528.82	70254.32	<b>61206.44</b>	<b>17363.00</b>
<b>Initial Fund Balance</b>	-1121.08	8886.78	4449.65	18433.84	43480.66
<b>Net Surplus</b>	10007.86	-4437.13	14019.08	25046.82	5289.00
<b>Ending Fund Balance</b>	8886.78	4449.65	18433.84	<b>43480.66</b>	<b>48769.66</b>

Figure 1: Fund Balance and Projections: 2004–9

### Explanation of Categories

**Revenue.** *SIG Dues* include membership dues that have been transferred to SIGSAM. *Subscription Revenue* includes revenue from subscriptions to SIGSAM publications by non-members and other miscellaneous subscription revenue. *Publication Sales* includes revenue from the sales of newsletters and bulletins, journals and conference proceedings. *Digital Library* revenue has been transferred by ACM to SIGSAM in compensation for the SIGSAM material provided through this online service. *Conference Revenue* includes revenue from SIGSAM-sponsored meetings – the ISSAC conference held during the reporting period. *Other Revenue* includes interest payments as well as income from service charges that has been transferred to SIGSAM.

**Expenses.** *Publication Expenses* includes the cost to produce, store and distribute the ACM Communications in Computer Algebra as well as proceedings that are delivered to ACM instead of the conference site. *Conference Expenses* includes

expenses of SIGSAM-sponsored meetings. Allocations include charges to SIGSAM for services provided by ACM staff. *Service Charges to Conferences* are paid by SIGSAM-sponsored meetings (and appear as an expense with a negative value on financial statements). *Other Expenses* include the costs of volunteer travel, elections, special meetings, promotions and projects, and miscellaneous fund transfers and service charges.

**Source of Information.**

This is a summary of data from the ACM Financial Management Reporting System prepared by the SIGSAM Treasurer. Please send electronic mail to [treasurer.SIGSAM@acm.org](mailto:treasurer.SIGSAM@acm.org) for additional information.

Preliminary report including revenue and expenses for period ending June 30, 2008 and budget for 2008–9.