Annual Report

ACM Special Interest Group on Symbolic and Algebraic Computation

SIGSAM

July 2012 – June 2013

Submitted by: Jeremy Johnson, Chair
August 2, 2013

SIGSAM Communications in Computer Algebra

The Communications in Computer Algebra has been published since 1965 (previously SICSAM Bulletin and SIGSAM Bulletin). The CCA is published quarterly; however, only two double-issues are printed and mailed per year, with the four electronic issues appearing through the digital library and the SIGSAM website. The change to two rather than four printings was made to prevent delays and save money and is consistent with the wishes of many of our members.

Manuel Kauers (Austria) and Ilias S. Kotsireas (Canada) served as co-editors, with an editorial board consisting of Jean-Guillaume Dumas (France), Massimo Caboara (Italy), Laureano Gonzalez-Vega (Spain), Michael Wester (USA), Lihong Zhi (China), Eugene Zima (Canada). Four issues were published in the period covered by this report. Four issues were published in the period covered by this report (issues 181-184) with two printed copies. The CCA continued with a mix of refereed papers, conference and workshop poster and software demo abstracts (including ISSAC and ECCAD), dissertation abstracts and announcements of interest to the computer algebra community. Starting with issue 185, Ilias Kotsireas will step down as co-editor and Manuel Kauers will continue as editor.

Conference and Event Sponsorship

ISSAC. The International Symposium for Symbolic and Algebraic Computation (ISSAC) for 2013 (38th annual conference) was held June 26-29, 2013 at Northeastern University, in Boston, MA USA. ISSAC 2013 was fully sponsored by ACM SIGSAM. The proceedings were published by ACM Press and conference

discounts were available to ACM and SIGSAM members. This year's registration fee was kept to a minimum and was only $330 ($300 for ACM/SIGSAM members) and $160 ($150 for ACM/SIGSAM members) for students. The reduced fee was due to University donations for hosting the conference and additional donations from MapleSoft, Microsoft Research and Wolfram. Additional reduction was do making the printed proceedings optional at additional cost and a lower, 10%, sponsorship fee. The reduced sponsorship fee was offered by SIGSAM based on its healthy financial position and funds saved from previous ISSAC conferences devoted to ISSAC. The level of this *contingency fund* is currently USD 9,248. The reduced conference registration and conference fee from ACM was proposed last year and was well received by the SIGSAM/ISSAC community.

ISSAC 2014 will be held July 21-24 in Kobe Japan. The local organizers and the ISSAC steering committee will seek to hold the conference in cooperation with ACM SIGSAM and the proceedings will be published by ACM and made available for the digital library. Based on a vote at the ISSAC business meeting at this year's ISSAC, ISSAC 2015 will be held in Bath England.

ECCAD. The East Coast Computer Algebra Day (ECCAD'13) was held on April 27, 2013, at the US Naval Academy in Annapolis, MD USA. The workshop was sponsored by the Office of Naval Research, Maplesoft and the Naval Academy in cooperation with SIGSAM. Poster abstracts from ECCAD'12 were published in the CCA issue 184.

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 53,648 as of June 30, 2013.

- The ISSAC 2011 Disinguished Paper award was given to Jingguo Bi, Qi Cheng, and J. Maurice Rojas for their paper "Sub-Linear Root Detection, and New Hardness Results, for Sparse Polynomials Over Finite Fields".
- The ISSAC 2011 Distinguished Student Author Award was given to Pierre Lairez for Creative Telescoping for Rational Functions Using the Griffiths-Dwork Method (with Alin Bostan and Bruno Salvy) and to Qingdong Guo for Computing Rational Solutions of Linear Matrix Inequalities (with Mohab Safey El Din and Lihong Zhi).

Additional awards, not sponsored by SIGSAM were given for the best poster and software demo (abstracts of these and all posters and software demos will be published in a future CCA issue).

- The Best Poster award was given to Jeremy Johnson and Lingchuan Meng for their poster "Towards Parallel General-Size Library Generation for Polynomial Multiplication" and …
- The Best Software Demo award was given to Fredrick Johansson for "Arb: a C Library for Ball Arithmetic".

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. The prize is given in alternating years and was awarded this year at ISSAC 2013 to William Stein for the Sage Project. This award is granted from an endowment with a value of USD 29,454 as of June 30, 2013.

Transactions on Mathematical Software

SIGSAM has a seat on the editorial board of the ACM Transactions on Mathematical Software (TOMS). This position was previously held by Michael Monagan from Simon Fraser University (Canada) and is now held by Clement Pernet from the Universit\'{e} Jopseph Fourier in Grenoble France.
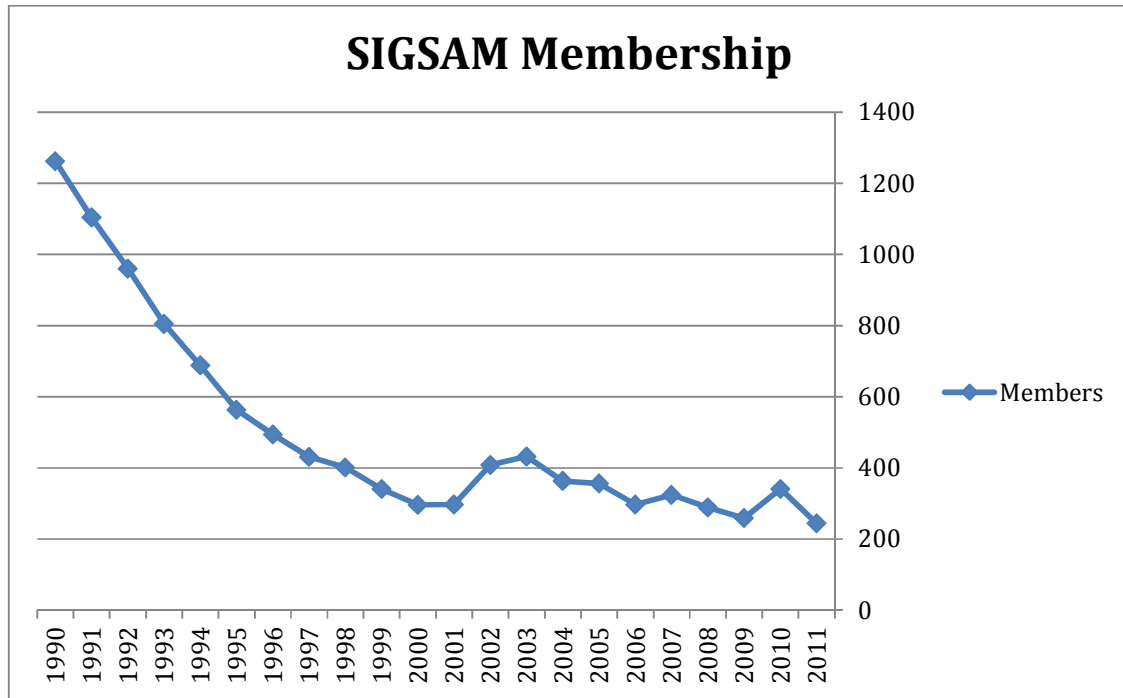
Viability Review

SIGSAM underwent a viability review at the March 14, 2013 SGB meeting. Following a presentation by SIGSAM chair Jeremy Johnson, the SGB voted to approve the continuation of SIGSAM "The SGB EC congratulates SIGSAM on their continuing importance to the community, but has concerns about submissions and attendance at the ISSAC conference and finds SIGSAM viable to continue its status for the next 3 years." The next review will occur in 3 years.

SIGSAM Elections

Elections were held to choose new ACM/SIGSAM officers. Mark Giesbrecht, former chair of SIGSAM, served as chair of the nominating committee obtaining an excellent slate of officers: 1) Chair: Ilias Kotsireas and Daniel Lichtblau, 2) Vice Chair: Jean-Guillaume Dumas and Wen-Shin Lee, 3) Secretary: Jacques Carette and Ziming Li and 4) Treasurer: Elena Smirnov and Agnes Szanto. The new officers are Ilias Kotsireas (Professor, Wilfrid Laurier University, Waterloo, Ontario Canada), Jean-Guillaume Dumas (Professor, Universit\'{e} Jopseph Fourier, Grenoble France), Ziming Li (Professor, AMSS, Academia Sinica, Beijing, China) and Agnes Szanto (Professor, NCSU Raleigh USA).

SIGSAM Membership

As of June 30, 2013, SIGSAM had 262 members, which increased from 241 members the previous year. While membership has increased, remains the primary concern for SIGSAM. The following chart shows the decline in SIGSAM membership over the last 21 years.

SIGSAM Membership

Chart: SIGSAM Membership showing member count (Members) from 1990 to 2011. Values decline from approximately 1260 in 1990 to around 240 in 2011, with a peak near 430 in 2002-2003.

The SIGSAM officers have started to investigate this trend along with a review of member benefits, and will determine a plan going forward to raise membership.

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. The advisory board has not been active in the last four years and the SIGSAM officers will look at how best to use the advisory board and a plan to reactivate the board.

SIGSAM Finances

The attached financial report was prepared by Agnes Szanto (SIGSAM Treasurer), which is summarized below.

Summary

We inherited a financially robust SIGSAM, with an opening balance of over $60,000, well above what is minimally required, due mainly to the success of the ISSAC'11 conference: during the 2011-12 fiscal year SIGSAM added more than $9000 to the budget. This year SIGSAM will not have significant surplus or deficit, since ISSAC'12

was organized in-cooperation with ACM. We hope that the success of ISSAC'13 in Boston will add a surplus for our budget next year.