Chair's Report 2006–2007

SIGSAM Annual General Meeting

Emil Volcheck, Past Chair

August 1, 2007

Who We Are

SIGSAM is the ACM Special Interest Group for Symbolic and Algebraic Manipulation.

Our scope is the design of algorithms and systems for symbolic and algebraic computation and the use of such systems in different application areas.

Who We Are

Facts about us:

- founded in 1967 by Jean Sammet, Past President of the ACM.
- 311 members (end of June).
- account balance 18,500 USD (end of June).
- award endowments of about 77,000 USD.

Goals

Our main goals are

- Advancing the interests of and increasing professional opportunities for our members,
- Collecting and disseminating information in computer algebra,
- Promoting awareness and understanding of computer algebra throughout the scientific community.

Publication

ACM Communications in Computer Algebra (CCA)

- Formally Reviewed Articles
- Timely Communications
- Announcements (events, awards)
- Published in print, circulation ≈ 700
- Published in ACM Digital Library (DL)

Editors

- Ilias Kotsireas (Canada)
- Austin Lobo (USA)

Editorial Staff

Associate Editors:

- Chris Brown (Formally Reviewed Art.) (USA)
- Jean-Guillaume Dumas (France)
- Massimo Caboara (Italy)
- Laureano ("Lalo") Gonzalez-Vega (Spain)
- Manuel Kauers (Austria)
- Michael Wester (USA)
- Eugene Zima (Canada)

Awards

ISSAC Awards

- Funded by SIGSAM endowment of about 50,000 USD
- ISSAC Distinguished Paper Award
- ISSAC Distinguished Student Author Award
- Chosen by ISSAC Program Committee

Awards

ACM SIGSAM Richard D. Jenks Memorial Prize

- established to recognize excellence in software engineering in computer algebra
- Awarded to John Cannon for Magma in 2006
- Awarded to SINGULAR team in 2004
- Chosen by awards committee with representatives from SIGSAM, SIGSOFT
- Funded by an endowment of 27,000 USD.

Awards

ACM Fellows are members whom the ACM has recognized for outstanding technical, professional, and leadership achievements.

SIGSAM has successfully nominated

- George Collins (2004)
- Anthony Hearn (2006)

Five members of SIGSAM are now ACM Fellows.

Promoting Computer Algebra

We promote conferences by offering the scientific endorsement and/or financial stability of the ACM.

We support the ISSAC conference in these ways:

- We regularly sponsor ISSAC, which offers scientific endorsement and financial stability.
- We keep half the return from ISSAC conferences in a subaccount for use by the ISSAC Steering Committee.
- We produce proceedings on DVD, which include additional content (open source software, video of invited lectures).

Promoting Computer Algebra

In 2007, we offered scientific endorsement, in the form of "in cooperation" status, to

- ECCAD 2007
- Symbolic-Numeric Computation (SNC) 2007
- Parallel Symbolic Computation (PASCO) 2007

We welcome proposals to support other conferences.

Promoting Computer Algebra

CAS Citations Projects

- Collect bibliographic citations to CAS
- Help get citation credit for developers
- Coordinator: Alexander Hulpke
- `http://sigsam.org/citation`

Promoting Computer Algebra

Partnering with American Mathematical Society

- Better coverage of ISSAC in *Math Reviews*
- AMS Special Session abstracts in CCA

We invite you to volunteer to review ISSAC papers by writing to `mathrev@ams.org` . You can post your reviews on your website.

For details, see my letter in the March 2007 CCA.

Promoting Computer Algebra

Research funding initiative:

- Committee to draft a "white paper" to explain significance of computer algebra, justify research funding
- Inspired by `theorymatters.org`
- Support from the US National Science Foundation (NSF) and the Computing Research Association (CRA).
- Committee members: Richard Fateman, Mark van Hoeij, Erich Kaltofen, Stephen Watt

Promoting Computer Algebra

SIGSAM promotes communication across the field:

- Information Director: Will Turner
- Website: `http://sigsam.org/`
- Mailing lists: SIGSAM-Members, SIGSAM-Friends
- New website coming soon: preview at `http://plone.sigsam.org/`

Promoting Computer Algebra

TOMS

The "ACM Transactions on Mathematical Software" (TOMS) seeks to communicate important research results addressing the development, evaluation and use of mathematical software. In addition, TOMS publishes machine-readable computer software which is incorporated into the "Collected Algorithms of the ACM."

Promoting Computer Algebra

Once TOMS covered core computer algebra, but over time, it drifted to cover only numerical papers.

SIGSAM appointed Gene Cooperman to the TOMS Editorial Board to enhance coverage of computer algebra.

He has obtained a definite commitment for one paper in discrete computer algebra, with tentative commitments for two more papers.

Promoting Computer Algebra

Open Source Computer Algebra Systems

SIGSAM should promote excellent scientific work in computer algebra.

We can help publicize open source projects:

- OSCAS Column in CCA, featuring articles on Maxima and Axiom by David Joyner.
- open source software on the ISSAC DVDs (e.g., SAGE)

Promoting Computer Algebra

The ACM is willing to publish a journal on topic(s) related to computer algebra and symbolic computation.

A new journal would be included in the ACM Digital Library (DL) at no additional charge.

ACM was the first publisher to allow self-archiving of journal articles and still has one of the most generous policies.

Promoting Computer Algebra

A new journal?

ACM would welcome a proposal for a new journal on a general topic, e.g., "ACM Transactions on Symbolic Computation".

ACM would consider a special topic, e.g., parallel symbolic computation, computational logic, design and implementation of CAS, or symbolic linear algebra.

Promoting Computer Algebra

Cost of a new journal
Rising costs and "bundling" by commercial publishers make journal subscriptions harder to afford.

ACM operates publications to break even (non-profit), so its journals cost less.

1700 libraries, 35,000 individual ACM members, total est. 100,000 world-wide have DL access.

Promoting Computer Algebra

Cost of a new journal
Estimated subscription price:
institutional: 180 USD/year,
personal: 50 USD/year.
(Assumes small print run of about 200 copies.)

Cost of Transactions on Algorithms (TALG):
Print 50, Online 40, Both 60

Cost increases are limited by ACM policy to
1 USD/year for individual subscribers, 5 USD/year
for institutional subscribers.

Promoting Computer Algebra

Recommendation:

The outgoing officers have recommended that the incoming officers begin a process of deciding whether to establish such a journal.

Governance

We have worked to improve governance through better communication:

- The chair reports to the Advisory Board several times per year (ten reports in the last two years).
- More frequent Executive Committee phone conferences, using Skype, with the option to record.
- Use of a Wiki and archived mailing lists to document knowledge and retain organizational memory.

Governance

The outgoing officers have prepared a revision of our bylaws to improve the governance of SIGSAM.

Members are currently forced to choose between two excellent candidates for Chair.

We propose adopting an election structure common among nonprofit associations: a "Board of Directors" model.

Governance

Members will elect the Executive Committee, and then the Executive Committee will choose the officers.

More choice: $\binom{8}{4} = 70 > 2^4 = 16$.

We propose to formally establish the Advisory Board as a standing committee of SIGSAM.

We also correct several technical problems.

Governance

These proposed revisions have been approved for release to the SIGSAM membership by the SIG Governing Board.

Recommendation:

The outgoing officers have recommended to the new officers to bring our proposal to the membership.

Outgoing Officers

Chair: Emil Volcheck (USA)

Vice Chair: Werner Krandick (USA)

Secretary: Fabrice Rouillier (France)

Treasurer: Wayne Eberly (Canada)

Past Chair: Rob Corless (Canada)

Advisory Board

The SIGSAM Advisory Board advises the Executive Committee. The past Board consisted of the officers, editors, and ten members-at-large.

Members-at-Large (June)

Gene Cooperman	George Labahn
Joachim von zur Gathen	Ziming Li
Jürgen Gerhard	Daniel Lichtblau
Laureano Gonzalez-Vega	Peter Paule
Alexander Hulpke	Will Turner

Join Us!

Become a member:

- Two printed issues of CCA per year
- Early access to CCA through SIGSAM website
- DVD of ISSAC Proceedings, etc.
- Support SIGSAM activities and awards
- Only 30 USD per year

Volunteer to help with our work! (Ask us how!)