

CALL FOR PAPER & SPECIAL SESSION

17th INTERNATIONAL CONFERENCE ON
APPLICATIONS OF COMPUTER ALGEBRA (ACA-2011)

June 27-30, 2011
HOUSTON, TEXAS, USA

In the past several years there has been a dramatic increase in the use of algebraic and symbolic computation in engineering, science and education. The ACA series of annual conferences is devoted to stimulating and enhancing this important progress through international meetings that emphasizes theoretical research and algorithm designs for software development and the applications of algebraic and symbolic computation in engineering, physical and medical sciences, pure and applied mathematics, education, communication and computer science.

The conference consists of sessions organized by prominent researchers who will focus on their own application areas including Groebner basis algorithms, quantifier-elimination algorithms, algebraic and algorithmic aspects of differential and integral operators, high-performance computer algebra, multi-core high-performance computer algebra algorithms, algebraic methods in statistics and system biology, and algebraic methods in biological networks and algebraic computation in Boolean rings.

Through keynote speakers, talks, themed workshops, timely and topical tutorials, this conference provides mechanisms for graduate students and young scientists to meet each other and all participants in a relaxed yet scientifically rigorous setting. These mechanisms also provide access to the broad representation of participants from academia and industry. The organizers very much hope that this conference will make a broad impact on both the symbolic computation research community and the user community. The user community will be able to learn about the state of the art theories and algorithms that are available for their uses. The research community will be able to learn about important problems and challenges facing the serious users from other disciplines, inspiring fresh new theoretical research and algorithm design.

The 17th annual international conference on applications of computer algebra will be held at the Hilton Hotel in Houston, Texas, U.S.A. on June 27-30, 2011. The conference is sponsored by Lamar University and the National Science Foundation (pending).

New For This Conference:

1. Invited Talks and Topical Tutors: Reinhard Laubenbacher (VT), Seth Sullivant (NCSU), & TBA.
2. Post-conference selected papers will be published in 2011.
3. The conference is managed by easychair at <https://www.easychair.org/conferences/?conf=aca2011>, which will hopefully make the work of session organizers and attendees much easier.

1 Description of the Meeting

- General Chair: Quoc-Nam Tran, Lamar University
- Program Chairs: Quoc-Nam Tran (Lamar University) and Stanly Steinberg (New Mexico)
- Scientific Committee:

Alkiviadis Akritas (Greece)	Winfried Neun (Germany)
Michel Beaudin (Canada)	Matu-Tarow Noda (Japan)
Bruno Buchberger (Austria)	Bill Pletsch (USA)
Jacques Calmet (Germany)	Eugenio Roanes-Lozano, Chair, (Spain)
Victor Edneral (Russia)	Tateaki Sasaki (Japan)
Victor Ganzha (Russia)	Yosuke Sato (Japan)
Vladimir Gerdt (Russia)	Tony Shaska (USA)
Mark Giesbrecht (Canada)	Margarita Spiridonova (Bulgaria)
Hoon Hong (USA)	Stanly Steinberg (USA)
David Jeffrey (Canada)	Agnes Szanto (USA)
Eric Kaltofen (USA)	Quoc-Nam Tran (USA)
Ilias Kotsireas (Canada)	Nikolay Vasiliev (Russia)
Bernhard Kutzler (Austria)	Stephen Watt (Canada)
Robert H. Lewis (USA)	Michael Wester (USA)
Richard Liska (Czech)	Wolfgang Windsteiger (Austria)
- Local Arrangements : Valentin Andreev (Chair), Taylor White, and Paul van der Maas
- Web-site: <http://buchberger.cs.lamar.edu/ACA2011>
(back-up website is at <http://hpcc.cs.lamar.edu/ACA2011>)
- Contact Address:
 - ACA-2011 Conference, Department of Computer Science, Lamar University, Box 10056, Beaumont, TX-77710, U.S.A.
 - Tel: (409) 880-7995 Fax: (409) 880-2364 Email: aca2011@buchberger.cs.lamar.edu

Important Due Dates:

- Proposals for organizing a special session: March 15, 2011.
- Submission of full papers or talks at the conference: May 1, 2011.
- Notification of acceptance for the conference: June 1, 2011.
- Submission of full papers for the post-conference collection book/journal: August 1, 2011.

Topics To Be Presented

The conference will cover (but not be limited to) the following topics:

1. Computer Algebra in Education
2. Interaction Between Computer Algebra and Interval Computations
3. Groebner bases computation and applications

4. Elimination Theory and Applications
5. Applications of Math Software to Mathematical Research
6. Computer Algebra for Dynamical Systems and Celestial Mechanics
7. Symbolic and Numeric Computation
8. Algebraic and Algorithmic Aspects of Differential and Integral Operators
9. High-Performance Computer Algebra
10. Nonstandard Applications of Computer Algebra
11. Algebraic Computation in Boolean rings and Applications in Model Checking
12. Algebraic Methods for Computational Biology & Bioinformatics

Academic sessions are now being organized.

Organizing a Special Session

The meeting will be run in the standard ACA format where prominent researchers are welcomed to organize a special session. Requests for proposals for special sessions will also be issued. Additional information is available from the conference's website.

A special session will be allocated three hours for presentations. It is expected that most talks, including any time for questions or discussion, will be for one-half hour so that attendees can move from one session to another. However, the organizers may use the time in anyway they wish. Having the first talk in the session be a survey or overview for a general scientific and educational audience is encouraged. It would be appropriate for this talk to be for one hour.

Duties of a Session Chairperson:

Submit a proposal for a session to the General Chair. This should consist of an abstract for the session and a list of intended speakers to be invited. If the session is approved, then the following needs to be done:

1. Maintain the session's website and forward the address to the Program Chair.
2. Invite the speakers. Request that the speakers submit abstracts and/or full papers to the organizer. The organizer will forward the submissions to the Program Chair.
3. Find at least two referees for each full paper submission for the proceedings of the conference. (No referees are needed for abstracts.)

The conference organizers request that senior special-session organizers invite a junior researcher to be their co-organizer. In addition, it is important for the health of the symbolic computation community to encourage junior, female, and minority researchers to participate in the special sessions.

2 Facilities and Costs

The meeting will be held at the Hilton hotel located in Houston, Texas, USA. Professor Quoc-Nam Tran, who is organizing the meeting, has visited the Hilton hotel. Their conference facilities are excellent. Moreover, their use is gratis if sufficiently many attendees stay at the hotel. Our estimates indicate we will have no problem meeting the minimum.

The hotel provides rooms and chairs. We must rent the audio-visual and related equipment and arrange for Internet connections. We also have to arrange for coffee breaks and similar items. All of this is being done by the local arrangements committee and should be essentially completed in a couple of months.

The hotel is offering special prices for ACA's attendees at the cost of \$65 per day plus tax in contrast to the normal price of \$98 per day plus tax. The Hilton hotel also offers free shuttle bus to and from the airport for guests. There also are condominiums and other cheaper hotels nearby.

Costs and Justification

Note that the organizers were very concerned about the cost of having a meeting in the US. However, the expenses are competitive with meetings held in Europe or in a major US city. Additionally, the use of the conference facilities in the hotel are gratis, which will significantly reduce the registration fee. Also, several journals, including the IMACS journals, the Journal of Symbolic Computation, and the Applied Algebra in Engineering, Communication and Computing will consider creating special issues of interesting session (at no cost to the ACA).

The maximum registration fee for the meeting is certainly not more than \$200, and will hopefully be much less. We are currently working out the cost of equipment rental, coffee breaks, and such and do not expect final answers for several months. An estimate for meals is $\$40.00 \times 4 \text{ days} = \160 . Estimated hotel room is $\$65.00 \times 4 \text{ days} = \280 . The cost of the meeting is then expected to be around \$640 plus travel. Estimated travel costs to the meeting from the east coast (New York) \$400, the west coast (Los Angeles) \$400, and Europe (Frankfurt) \$1100.

Financial Supports

Requests for supporting students, young researchers and organizers have been made to the NSF. Information on this issue will be updated on the conference's website.

Additional support has been requested from Lamar University, the host university, for a portion of the costs for renting audio-visual equipment (with an estimation of $\$1500 \times 3 = \4500) and for printing the proceedings of the conference (with an estimation of $\$27.5 \times 200 = \5500).