

Special Session

# Compact Computer Algebra

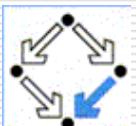
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July 29, 2008

ACA 2008

RISC, Hagenberg

<http://www.orcca.on.ca/conferences/cca2008>



**ORCCA**

Ontario Research Centre for Computer Algebra



TEXAS INSTRUMENTS

# Why Compact Compute Algebra?

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In the 1970s and 80s the developers of CAS knew how implement highly efficient systems  
**(because they had to).**

To deploy computer algebra in today's personal devices or to make computer algebra available as component in larger software systems we must continue to use and extend this knowledge  
**(because we want to).**

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# Evolution of CAS and H/W

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As high end hardware configuration grow, our CAS can be used to handle **ever larger problems.**

However, as low end configurations become more powerful, we can move to **ever smaller devices.**

(Today's SmartPhones offer more resources than were available on typical workstations of the early 90-s)

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# Evolution of CAS applications

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In the same way, when CAS is used as a ***component*** to a larger systems, it needs to provide only those capabilities that are required by the component.

(A program that does algebraic transformation in order to re-flow multi line equations in a word processor need not know how to do symbolic integration)

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# CCA 2008

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This session is the first event dedicated to the whole spectrum of issues of compact CA.

We have, represented here today, people who were founders of and early contributors to the area of the CCA as well as several newcomers who are addressing today's new challenges.

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# Programme [morning]

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[09:05 - 10:00] (invited talk)

**David R. Stoutemyer**

Some Ways to Implement Computer Algebra  
Compactly

[10:00 - 10:30]

**David J. Jeffrey**

Two for One. LU matrix factors and Moore-Penrose  
inverse.

[11:00 - 12:00] (invited talk)

**Michael Monagan**

How fast can we multiply and divide sparse  
polynomials?

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# Programme [afternoon]

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[14:50 - 15:20]

**Akira Suzuki**

Implementation of CGS on small devices

[15:20 - 16:15] (invited talk)

**Mitsushi Fujimoto**

On the User Interface of AsirPad -- a Pen-based CAS for PDA

[16:15 - 16:45]

**Stephen M. Watt**

Compact Representation and Recognition for Handwritten Mathematical Characters

[17:00 - 17:55] (invited talk)

**Chris DeSalvo**

Computer algebra for mobile devices in the real world

[17:55 - 18:25]

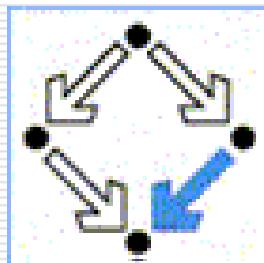
**Hiroshi Kai**

A MathML content markup editor on the xfy

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# Session supported by

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# Call for Applications of CCA

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Submit your problem that requires CCA  
to the session organizers.

<http://www.orcca.on.ca/conferences/cca2008>

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