
Call for papers

12th International Conference on Artificial Intelligence
and Symbolic Computation AISC 2014

(website: <http://www.glc.us.es/aisc2014>)

Sevilla, Spain December 11-13, 2014

Organized by: University of Sevilla, Spain

Chairs: Gonzalo A. Aranda-Corral (University of Huelva, Spain)

Francisco J. Martin-Mateos (University of Sevilla, Spain)

VENUE:

AISC 2014 will take place in Sevilla, a very attractive city of Spain.
The venue will be the Department of Computer Sciences and Artificial
Intelligence at the University of Sevilla.

HISTORY:

Conferences in this series are held since 1992 on even years.

AISMC-1: Karlsruhe (Germany, 1992)

AISMC-2: Cambridge (United Kingdom, 1994)

AISMC-3: Steyr (Austria, 1996)

AISC'1998: Plattsburgh (USA)

AISC'2000: Madrid (Spain)

AISC'2002: Marseille (France)

AISC'2004: Hagenberg (Austria)

AISC'2006: Beijing (China)

AISC'2008: Birmingham (United Kingdom) (within CICM 2008)

AISC'2010: Paris (France) (within CICM 2010)

AISC'2012: Bremen (Germany) (within CICM 2012)

The goal of this series of conferences was to attract researchers active in Symbolic
Computation and Artificial Intelligence. The first three were named "Artificial
Intelligence and Symbolic Mathematical Computing (AISMC)". The recent conferences
were part of the integrated federation of conferences CICM (Conferences on Intelligent
Computer Mathematics).

AISC'2014 will be again independent in order to extend the scope of the conference.
It will aim at attracting contributions from both classical theory fields and application
areas. The aims are to offer a forum for young and advanced researchers and mainly
to manage that they have opportunities to interact.

SCOPE:

Submitted papers should be related with one or more of the main themes proposed
for the Conference.

As usual the conference welcomes papers with a strong AI component that make
use of symbolic computation in a wide sense (not excluding but not restricted to
computer algebra). However, AISC 2014 aims at extending the scope of this series
of conferences to computing in AI thus covering new areas.

Topics of either theoretical or applied interest include the following non-exhaustive list
of topics:

- AI in Symbolic Mathematical Computing.
- Mechanization of Mathematics with special emphasis on Algebraic Geometry and Algebraic Topology.
- Computer Algebra Systems and Automated Theorem Provers.
- Integration of Logical Reasoning and Computer Algebra.
- Logic and Symbolic Computing.
- Combining of Logics, including fibring logics, unified logics, logical fibering and similar approaches.
- Non-classical logics computation such as non-monotonic reasoning, uncertainty,

- revision and beliefs.
- Causal inferences.
- New approaches to AI such as universal AI, heuristic approaches.
- Computability, Turing machines, probabilistic Turing Machines.
- Symmetries in AI problems,
- Foundations and Complexity of Symbolic Programming Languages for Symbolic Computation.
- Symbolic Computations for Expert Systems and Machine Learning.
- Implementations of Symbolic Computation Systems.
- Implementation, Complexity and Performance Issues.
- Mechanized program verification.
- Mechanical theorem proving in geometry.
- Automated reasoning.
- Automated discovery.
- Machine learning.
- Knowledge extraction and verification.
- Semantic web technologies.
- Mathematical computations and the Internet of Things.
- Multi-agent systems.
- Decision support systems.
- Engineering, Industrial and Operation Research Applications.
- Mathematical machine intelligence.
- Mathematical Knowledge.
- Intelligent interfaces.
- Collective intelligence.
- Relevant educational systems.
- Epistemology and philosophy of Symbolic Mathematical Computing, multiagent systems.
- Impact on business models including business plans. Assessment of model sustainability.
- Emerging fields of computational AI such as biocomputing and quantum computing.

INVITED SPEAKERS:

Volker Sorge (University of Birmingham)
 José Luis Ruiz-Reina (University of Sevilla, Spain)

(to be completed)

PROGRAM COMMITTEE:

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SUBMISSIONS:

Authors are invited to submit non-anonymized papers in English presenting original and unpublished research, not currently submitted elsewhere

Regular papers should not exceed 12 single-spaced pages (including eventual appendices) and should be formatted according to the standard format for Springer Verlag LNCS series (see <http://www.springer.com/computer/lncs?SGWID=0-164-6-793341-0>).

Works from doctoral students are welcome. A specific chapter of the proceedings will be devoted to such contributions.

PUBLICATIONS:

As for the previous conferences the proceedings will again be published by Springer in the LNAI series and will be available by the time of the conference.

The proceedings editors are Gonzalo A. Aranda-Corral , Francisco J. Martín-Mateos and Jacques Calmet.

As for the previous editions of the conference, selected accepted conference papers will be invited to submit peer-reviewed extended versions for publication in special issues of journals.

The Annals of Mathematics and Artificial Intelligence (AMAI) and the International Journal of Computer Science and Applications (IJCAS) have tentatively agreed to devote special issues to such papers.

Selected extended, improved contributions will be considered for publication in the AECC (Applicable Algebra in Engineering, Communication and Computing) journal.

REGISTRATION:

Because of the shortage of funding of research and academic institutions, registration fees will be kept as low as possible.

IMPORTANT DATES:

Paper submission: June 15th 2014
Notification of acceptance/rejection: September 3rd 2014
Camera-ready copy due: September 24th 2014