

## First Announcement and Call for Papers

# The 10th International Symposium on Symbolic Computation in Software Science

*In the Era of Computational and Artificial Intelligence*

August 28-30, 2024 Tokyo University of Science

[www.scss-conference.org/2024](http://www.scss-conference.org/2024)

### Overview

SCSS 2024 is the 10th International Symposium on Symbolic Computation in Software Science. Its purpose is to promote research on theoretical and practical aspects of symbolic computation in software science, combined with modern artificial intelligence techniques.

Symbolic Computation is the science of computing with symbolic objects (terms, formulae, programs, representations of algebraic objects etc.) Powerful algorithms have been developed during the past decades for the major subareas of symbolic computation: computer algebra and computational logic. These algorithms and methods are successfully applied in various fields, including software science, which covers a broad range of topics about software construction and analysis.

Meanwhile, artificial intelligence methods and machine learning algorithms are widely used nowadays in various domains and, in particular, combined with symbolic computation. Several approaches mix artificial intelligence and symbolic methods and tools deployed over large corpora to create what is known as cognitive systems. Cognitive computing focuses on building systems which interact with humans naturally by reasoning, aiming at learning at scale.

### Scope

The topics of the symposium include, but are not limited to, the following:

- methods for large-scale computer understanding of mathematics and science
- program synthesis, transformation and verification, including by AI methods
- automated reasoning and knowledge management
- theorem proving methods and techniques
- alignment and joint processing of formal, semi-formal and informal libraries
- formal methods for the analysis of security
- proof carrying code
- formal verification of AI and ML algorithms, explainable AI, symbolic AI
- intelligent geometric methods, including computational origami
- query languages for symbolic data
- symbolic methods for semantic web and cloud computing
- analysis of symbolic algorithms.

### Invited Speakers

Wenshin Lee	University of Stirling
Adrian Tate	NAG Ltd
Stephen Wolfram	Wolfram Research
Kazuhiro Yokoyama	Rikkyo University

## Call for Papers

Original submissions are invited in two categories: regular research papers and work-in-progress papers.

Regular research papers must not exceed 15 pages in LNCS format including references and appendices. It is planned for the accepted papers to be published in a proceedings in the Springer LNAI series. Shorter papers on tools may be considered in this category and should include a URL from which the tool can be downloaded or accessed on-line.

Work-in-progress papers need not be original. Concurrent submission to another conference or a journal is allowed. Papers in this category are limited in length to 4 pages in the EPTCS format. The accepted ones will be presented at the symposium and will be included in a CoRR proceedings.

Papers and abstracts are submitted via the EasyChair submission page:

<https://www.easychair.org/conferences/?conf=scss2024>.

## Important Dates

2024-02-23: regular paper title and abstract submission.  
2024-03-01: regular paper submission deadline.  
2024-05-01: regular paper notification.  
2024-06-15: regular paper camera-ready submission deadline.  
2024-06-07: work-in-progress papers submission deadline.  
2024-06-21: work-in-progress papers notification.  
2024-08-28: conference begins.

## Organization

*General Chair* Tetsuo Ida, University of Tsukuba  
*Local Arrangements Chair* Katsusuke Nabeshima, Tokyo University of Science

*Program Committee*  
Stephen Watt University of Waterloo (Chair)  
David Cerna Czech Academy of Sciences Institute of Computer Science  
Changbo Chen Chinese Academy of Sciences  
Rachid Echahed CNRS and University of Grenoble  
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