


**Empirically Successful Automated Reasoning
in Higher-Order Logic (ESHOL)**

will be held at

**Wexford Hotel, Montego Bay, Jamaica
December 2nd 2005**

<http://www.ags.uni-sb.de/~chris/ESHOL-05/>



$\exists p.p=A \cap B$

$p=[x|x \text{ in } A \text{ and } x \text{ in } B]$

This workshop brings together practitioners and researchers who are involved in the everyday aspects of logical systems based on higher-order logic. We hope to create a friendly and highly interactive setting for discussions around the following four topics. Implementation and development of proof assistants based on any notion of impredicativity, automated theorem proving tools for higher-order logic reasoning systems, logical framework technology for the representation of proofs in higher-order logic, formal digital libraries for storing, maintaining and querying databases of proofs. We solicit paper submissions within or related to the following two areas.

Systems

- Tactic-based proof assistants. Heuristics.
- Automated theorem proving. Proof search. Resolution. Equational theories.
- Implementation. Higher-order unification. Term-indexing.
- Logical frameworks. Meta-languages for logical formulas and proofs.
- Formal digital libraries of mathematical proof. Database technology. Query languages.
- Integration of Reasoning Systems.

Applications

- Comparative analysis of higher-order reasoning techniques.
- Experience reports. Integration and cooperations with their logics, constraint solvers, model generators, and model checkers.
- Special purpose reasoning techniques for practical applications.
- User interfaces.
- Practical results of proof representation and compression.
- Logic morphisms.
- Digital libraries. Benchmark problems. Challenge problems.

We envision attendees that are interested in fostering the development and visibility of reasoning systems for higher-order logics. We are particularly interested in a discussion on the development of a higher-order version of the TPTP and in comparisons of the practical strengths of automated higher-order reasoning systems.

Additionally, the workshop will include **system and application demonstrations**. Demonstrations of systems and applications described in paper presentations, and demonstrations of systems and applications without an accompanying paper, are both encouraged.

ESHOL is the successor of the ESCAR and ESFOR workshops held at CADE 2005 and IJCAR 2004.

Organization

Structure of the Workshop

The workshop will be a 1 day workshop organized as follows:

- Presentation sessions, system demonstrations
- Invited talk
- Panel Discussion (or similarly organized event): How can we built-up a higher-order TPTP to foster the improvement of automated higher-order reasoning systems and their comparison with first-order theorem provers?

Programme Committee

Peter Andrews Carnegie Mellon University, USA
Michael Beeson San Jose State University, USA
Chad Brown Saarland University, Germany
Gilles Dowek École Polytechnique, France
Christoph Kreitz Potsdam University, Germany
Larry Paulson Cambridge University, UK
Frank Pfenning Carnegie Mellon University, USA
Geoff Sutcliffe University of Miami, USA
Volker Sorge University of Birmingham, UK
Freek Wiedijk Nijmegen University, Netherlands

Organizers and PC Chairs

Christoph Benz Müller Saarland University, Germany
John Harrison Intel Corporation, USA
Carsten Schürmann Yale University, USA

If you have any questions about the workshop, please email the organizers.

Submission

Submission of papers for presentation at the workshop, and proposals for system and application demonstrations at the workshop, are now invited. Submissions will be reviewed (using this review form), and a balanced program of high-quality contributions will be selected. Submissions can be in PDF or Postscript, and must conform to the format produced by LaTeX with this template. There is a 20 page limit. Long listings of problems or computer output should be relegated to a referenced WWW site.

Proposals for system and application demonstrations must include:

- System name, developers names and contact details.
- A system description, or associated paper submission.
- Screen shots or information for online access.
- Details of hardware and software that will have to be provided by the organizers if the demonstration is approved.

Those who submit proposals are encouraged to provide evidence that the system or application is empirically successful.

Submission is via EasyChair (thanks to Andrei Voronkov). Here is the link to the ESHOL'05 submission website.

Important Dates

- Submission deadline - September 28th
 - Notification of acceptance - November 1st
 - Camera ready versions due - November 10th
 - Workshop - December 2nd
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Journal Publication

The Journal of Applied Logic has agreed to a special issue on empirically successful higher-order automated reasoning. Authors of ESHOL papers will be able to submit extended versions of their workshop papers for this special issue. All papers submitted for the special issue will be reviewed according to the journal's standards.

This page is also available as pdf.