

How to Write a DAC Regular Paper

Introduction

Each year, the DAC Technical Program Committee issues a Call for Papers for regular paper submissions. In addition to the Call for Papers document, the following guidelines offer some brief suggestions for the form and content of regular paper submissions.

This document addresses regular technical papers. However, DAC also encourages panel, tutorial and special session submissions. You should determine whether a panel, tutorial, special session, or technical paper is the best way to convey your message to the DAC audience. There are separate deadlines for various kinds of submissions. Special session, panel and tutorial proposals must be submitted by November 1, 2006 and technical paper submissions are due November 20, 2006. If you would like further information regarding DAC submissions, visit the web site at www.dac.com or call the DAC office at 303-530-4333.

Regular Papers

This document overviews criteria and procedures used for paper selection, and provides guidance on how to write a paper to increase its chances of acceptance. DAC regular papers are presented in the majority of the sessions in the technical program (there are also tutorials and special invited paper sessions). Papers are presented either as a short presentation (15 minutes – 12 minutes presentation, 3 minutes questions) or long presentation (30 minutes – 25 minutes presentation, 5 minutes questions).

All DAC regular papers are judged on the basis of the full paper which is submitted for review. Full papers are a maximum of 6 two-column pages and should be structured in the normal way for a conference paper – title, authors, abstract, categories and keywords, introduction, background (including comparison with other approaches), detailed description of concepts, experimental results, conclusions and references. Previous DAC proceedings contain thousands of examples of regular papers and can be consulted for reference.

NOTE: To preserve the blindness of the review process, the call for papers at www.dac.com states that "any references to the author(s) own previous work or affiliations in the bibliographic citations must be in the third person."

Example: Stok and Sapatnekar presented a method for listing self-referential citations in [5].

[5] L. Stok and S. Sapatnekar, How to write a regular DAC paper, 2006. (available at <http://www.dac.com>)

Key considerations for a DAC Regular Paper

There are several key considerations for a DAC regular paper:

Tools, methods or design? DAC encourages papers from both industry and the research/academic community. It also encourages papers from both the EDA tools industry and from the design industry using tools. It judges papers by equally high quality criteria, but the paper review process will look at some different details depending on the kind of paper:

- Design tools, and design automation papers have at their core novel algorithms or novel algorithm implementations for important problems facing leading edge designers. These may be at all levels and types of design, and cover both design creation (for example, physical layout or logic synthesis) and design analysis (for example, signal integrity analysis, rule checking, functional verification, circuit simulation).
- Methodology papers have at their core a high-level “recipe” or flow for combining and applying point-tool design, optimization and analysis build blocks to achieve particular design goals. A methodology may be specific in scope (e.g. floorplan-stage substrate coupling) and application domain (e.g. designing wireless handsets). However, a good methodology innovation will be able to be applied to other kinds of designs, other design flows, and will be able to migrate to use new or varied tool innovations as they occur.

- Design papers are a combination of classical design papers and methodology papers. Since DAC is all about tools and their use, a good design paper will also discuss use of tools, what works and what doesn't. An outline for a design paper could be:
 - Design application (in brief)
 - Design description
 - How it was designed (methodology and flow)
 - How tools were used (concentrating on innovative tool uses)
 - Perhaps most important for the EDA industry and researchers: what were the limitations encountered in the tools? What new capabilities are required for the future to do a better job on these designs?

Category? DAC has 18 categories for tools, methods and design papers, organized into topic areas such as “High-level synthesis” and “Design for manufacturability”. Each of these has several sub-themes described in the call for papers. Please consider which category best fits your paper submission, so it can be assigned to the appropriate subcommittee for review. Tools and methodology papers could fit into any category. Design papers might fit in any category. The categories are listed on the Call for Papers document.

DAC Regular Paper Selection Process

The DAC Technical Program Committee determines which and how many regular papers will be included in the DAC program, as well as their placement in the conference schedule.

The Program Committee is organized into a set of subcommittees which focus on the various topic areas involved in Design Automation and Design. These are reasonably close, but not necessarily identical to the categories in the call for papers. Papers which are assigned by authors to the wrong categories may be re-assigned by the program committee chairs and subcommittee chairs to the subcommittee best able to review them. Each subcommittee will select the best papers submitted with limits determined by the overall numbers of submissions, the capacity of the DAC schedule, and the number of papers in each area. In recent years, acceptance rates for DAC papers have been about 20% - for example, in 2005, 154 papers were accepted from 735 submissions which is a little over 20%.

The Program Committee and its subcommittees will look at the following in selecting papers:

- The quality of the paper
- The quality of the work (design, method, research) described in the paper
- Originality of the concepts used and described (whether tools, methods or design). Advances over previous approaches should be significant in results. Comparisons with other approaches are important to justify the degree of advance claimed.
- Significance of the results obtained – by measurable quantitative criteria (runtime for tools, optimality of results, time for design process steps, simplification or automation of manual effort, etc.)
- Degree of experimental validation of the concepts. Use in real designs or widely accepted benchmarks with measurable criteria for results is highly desirable, if not essential.
- A good discussion of limitations of the approach and concepts, and possible areas for future improvement.
- The quality of the paper writing, use of English, and organization.
- Whether the paper quality and topic should be a short or long presentation, based in part on the significance of the work described and the amount of time required to present its content.
- Although papers of equally high quality are desired in each type of paper, the detailed criteria used to judge tools, methods or design papers will differ.

Once a paper has been accepted, the subcommittee organizes it into an appropriate theme session and these sessions are then scheduled over the duration of the conference.

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