

Preface

This volume constitutes the proceedings of the workshop on Semantics, Applications, and Implementation of Program Generation (SAIG 2000) held on 20 September, 2000, in Montreal, Canada. The workshop was held as a satellite event of the ACM International Conference on Principles, Logics, and Implementations of high-level programming languages (PLI).

SAIG aims at promoting the development and the application of foundational techniques for supporting automatic program construction. As the commercial production of software systems moves further from being an art and closer to being a traditional industry, automation will necessarily play a more substantial role in the production of software, much in the same way that automation plays a crucial role in the production of other commodities, such as garments, automobiles, chemicals, and electronics.

Four prominent contributors to the area of program generation kindly agreed to deliver invited talks at SAIG 2000: Don Batory (U. Texas), Richard Kieburtz (OGI), Gilles Muller (IRISA/INRIA), and Frank Pfenning (CMU). The proceedings include abstracts of these talks.

Seven technical papers and four position papers were presented at SAIG 2000. The technical papers covered a wide spectrum of topics, including:

- Multi-stage programming languages (*Calcagno and Moggi*)
- Compilation of domain-specific languages and module systems (*Elliott, Finne, and de Moore*, and *Helsen and Thiemann*)
- Novel program transformations addressing problems specific to program generation (*Makholm*)
- Low-level program generation (*Kamin, Callahan, and Clausen*)
- Formal specification of program transformations (*Fischbach and Hannan*)
- Termination analysis (*Song and Futamura*)

The position papers also cover a broad variety of aspects of program generation, including:

- Lessons learned from previous research systems (*Ramsey*)
- Generation of high-performance scientific applications (*Vuduc and Demmel*, and *Fischer, Schumann, and Pressburger*)
- Type-based analysis (*Berardi, Coppo, Damiani, and Giannini*)

SAIG 2000 would have not been possible without the support of the PLI organizers. We would especially like to thank Amy Felty for all her effort in coordinating the PLI workshops.

Review Process

A call for papers was announced on several mailing lists and newsgroups. Twenty submissions were received, including sixteen technical submissions, and four position papers. In total, 90 reviews were written, either by Program Committee members or by the external reviewers, and each paper received at least two written reviews. The final decisions were made collectively by the Program Committee on the basis of the collected reviews. In cases where Program Committee discussions were of benefit to the authors, the discussions were summarized and included with the reviews. All submissions were of very high quality, and time constraints on the workshop were the primary reason for exclusion. In a few cases, technically outstanding papers were excluded on the basis of relevance.

Program Committee

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Semantics, Applications, and Implementation of
Program Generation

International Workshop, SAIG 2000 Montreal, Canada,

September 20, 2000 Proceedings

Taha, W. (Ed.)

2000, VIII, 229 p., Softcover

ISBN: 978-3-540-41054-6