

Preface

The Tenth ACM SIGPLAN International Conference on Functional Programming (ICFP) was held in September, 2005, in Tallinn, Estonia; Benjamin Pierce chaired the program committee. After the conference, extended versions of some of the presented papers were solicited for this special issue of JFP. All submitted papers were reviewed following standard JFP procedures and four were ultimately accepted; they form the body of this special issue.

In the opening paper, Derek Dreyer offers an approach to modeling recursively dependent program modules, in particular the case where members of a recursive set of types originate in different modules. His approach is intriguingly reminiscent of a backpatching semantics for defining recursive values, only at the type level.

Martin Berger, Kohei Honda, and Nobuko Yoshida attack the problem of reasoning about programs that include both higher-order functions and imperative assignment with the possibility of aliasing. Their solution involves a new pair of logical operators that quantify a claim as holding “for all values” of a mutable cell or “for some value” of the cell.

Peter Sewell *et al.* give an in-depth description of Acute, a type-safe programming language for distributed computation. Their work addresses a broad set of issues: how to distinguish the local and distributed parts of a computation, how to name values in a distributed setting, what a type means when it spans nodes of computation, how to marshal data in a type safe way, and how to migrate threads as well as data.

Robert Harper and Daniel R. Licata assemble—finally, in one place—a technical introduction to LF and its realization in the Twelf proof assistant. They start from the dependent-type core of LF, and build through an example use of Twelf to prove properties about a simply-typed λ -calculus.

With just four papers weighing in at a generous 250 pages, it is clear that ICFP authors are eager to commit details about their work to the archival record—many more than the space constraints of a conference proceedings can accommodate. We are very pleased to present this collection of in-depth and authoritative accounts of four excellent pieces of work from ICFP '05.

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