

Preliminary Proceedings of the Third Workshop on
Types in Compilation
(TIC 2000)

September 21, 2000
CMU-CS-00-161

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Foreword

This volume is the informal proceedings of the Third ACM SIGPLAN Workshop on Types in Compilation held in conjunction with PLI 2000 in Montreal, Canada on September 21, 2000. These papers represent a selection of 12 papers chosen by the program committee after review of 20 submissions. Each paper was refereed by at least three members of the committee. The final selection of papers was made by the program chair with the consent of the committee. Papers co-authored by a program committee member were refereed independently of that member, with the final decision made by the program chair. The authors were invited to revise their submissions based on the referee reports and are reproduced here. A formal proceedings will be published by Springer-Verlag as part of the Lecture Notes in Computer Science series after the workshop. These papers will be refereed to journal standards and will represent an archival record of the research reported herein.

I wish to thank the program committee for their efforts in choosing the program and in preparing this volume. I am also grateful to the workshop chair, Karl Crary, and to Amy Felty, the PLI Workshops Chair, for their help in organizing TIC 2000.

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Franklyn Turbak, Wellesley College

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Amy Felty, University of Ottawa

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Session 1: 9:00–10:30 Chaired by Trevor Jim

Scalable Certification for Typed Assembly Language

Dan Grossman, Greg Morrisett (Cornell University)

Space Issues in Compiling with Intersection and Union Types

Allyn Dimock (Harvard University), Ian Westmacott (Boston University), Robert Muller (Boston College), Franklyn Turbak (Wellesley College), J. B. Wells (Heriot-Watt University), Jeffrey Considine (Boston University)

Sound and Complete Elimination of Singleton Kinds

Karl Crary (Carnegie Mellon University)

Session 2: 11:00–12:30 Chaired by Franklyn Turbak

A Type System for JVM Threads

Gaetano Bigliardi, Cosimo Laneve (University of Bologna)

Garbage Collection Based on Linear Type Systems

Atsushi Igarashi, Naoki Kobayashi (University of Tokyo)

Optimizing Message Sends in Object-Oriented Languages Through Type-Invariant Region Analysis

Mark Leair (The Portland Group), Santosh Pande (University of Cincinnati)

Session 3: 14:00–15:30 Chaired by Andrew Kennedy

Towards an Abstract Model of Java Dynamic Linking and Verification

Sophia Drossopoulou (Imperial College)

Safe and Flexible Dynamic Linking of Native Code

Michael Hicks (University of Pennsylvania), Stephanie Weirich (Cornell University), Karl Crary (Carnegie Mellon University)

Sharing in Typed Module Assembly Language

Dominic Duggan (Stevens Institute of Technology)

Session 4: 16:00–17:30 Chaired by Dominic Duggan

Alias Types for Recursive Data Structures

David Walker, Greg Morrisett (Cornell University)

Simple Usage Polymorphism

Keith Wansbrough (University of Cambridge), Simon Peyton Jones (Microsoft Research)

Fully Reflexive Intensional Type Analysis in Type Erasure Semantics

Bratin Saha, Valery Trifonov, Zhong Shao (Yale University)