Contents

Invited Presentations

Substructural Proofs as Automata ................................................. 3
   Henry DeYoung and Frank Pfenning

Verification and Analysis I

Learning a Strategy for Choosing Widening Thresholds
from a Large Codebase .......................................................... 25
   Sooyoung Cha, Sehun Jeong, and Hakjoo Oh

AUSPICE-R: Automatic Safety-Property Proofs for Realistic Features
in Machine Code .................................................................. 42
   Jiaqi Tan, Hui Jun Tay, Rajeev Gandhi, and Priya Narasimhan

Observation-Based Concurrent Program Logic for Relaxed Memory
Consistency Models ............................................................... 63
   Tatsuya Abe and Toshiyuki Maeda

Process Calculus

SPEC: An Equivalence Checker for Security Protocols ................. 87
   Alwen Tiu, Nam Nguyen, and Ross Horne

Binary Session Types for Psi-Calculi ...................................... 96
   Hans Hüttel

Static Trace-Based Deadlock Analysis for Synchronous Mini-Go .......... 116
   Kai Stadtmüller, Martin Sulzmann, and Peter Thiemann

Profiling and Debugging

AkkaProf: A Profiler for Akka Actors in Parallel and Distributed
Applications ................................................................. 139
   Andrea Rosà, Lydia Y. Chen, and Walter Binder

A Debugger-Cooperative Higher-Order Contract System in Python .... 148
   Ryoya Arai, Shigeyuki Sato, and Hideya Iwasaki
\(\lambda\)-Calculus

A Sound and Complete Bisimulation for Contextual Equivalence in \(\lambda\)-Calculus with Call/cc ........................................ 171
	Taichi Yachi and Eijiro Sumii

A Realizability Interpretation for Intersection and Union Types. .............. 187
	Daniel J. Dougherty, Ugo de’Liguoro, Luigi Liquori, and Claude Stolze

Open Call-by-Value. .......................................................... 206
	Beniamino Accattoli and Giulio Guerrieri

Type Theory

Implementing Cantor’s Paradise ............................................. 229
	Furio Honsell, Marina Lenisa, Luigi Liquori, and Ivan Scagnetto

Unified Syntax with Iso-types. ............................................. 251
	Yanpeng Yang, Xuan Bi, and Bruno C.d.S. Oliveira

Refined Environment Classifiers: Type- and Scope-Safe Code Generation with Mutable Cells ............................................. 271
	Oleg Kiselyov, Yukiyo Kameyama, and Yuto Sudo

Verification and Analysis II

Higher-Order Model Checking in Direct Style ............................... 295
	Taku Terao, Takeshi Tsukada, and Naoki Kobayashi

Verifying Concurrent Graph Algorithms .................................. 314
	Azalea Raad, Aquinas Hobor, Jules Villard, and Philippa Gardner

Verification of Higher-Order Concurrent Programs with Dynamic Resource Creation ............................................. 335
	Kazuhide Yasukata, Takeshi Tsukada, and Naoki Kobayashi

Programming Paradigms

Probabilistic Programming Language and its Incremental Evaluation ........ 357
	Oleg Kiselyov

ELIOM: A Core ML Language for Tierless Web Programming .................. 377
	Gabriel Radanne, Jérôme Vouillon, and Vincent Balat

Separation Logic

DOM: Specification and Client Reasoning .................................. 401
	Azalea Raad, José Fragoso Santos, and Philippa Gardner
Decision Procedure for Separation Logic with Inductive Definitions and Presburger Arithmetic .............................................................. 423
  Makoto Tatsuta, Quang Loc Le, and Wei-Ngan Chin

Completeness for a First-Order Abstract Separation Logic ................. 444
  Zhé Hôu and Alwen Tiu

Author Index .................................................................................. 465
Programming Languages and Systems
14th Asian Symposium, APLAS 2016, Hanoi, Vietnam,
November 21 - 23, 2016, Proceedings
Igarashi, A. (Ed.)
2016, XVII, 465 p. 100 illus., Softcover
ISBN: 978-3-319-47957-6