

PLI 2000

Principles, Logics, and Implementations of high-level programming languages

Montréal, Canada
September 17–22, 2000



- ICFP** International Conference on Functional Programming
PPDP 2nd International Conference on Principles and Practice of Declarative Programming
- Haskell** Workshop
HLCL 4th International Workshop on High-Level Concurrent Languages
HOOTS 4th International Workshop on Higher Order Operational Techniques in Semantics
RULE 1st International Workshop on Rule-Based Programming
Scheme Workshop on Scheme and Functional Programming
SAIG Semantics, Applications and Implementation of Program Generation
TIC 3rd International Workshop on Types in Compilation

	Sep 17 Sun	Sep 18 Mon	Sep 19 Tue	Sep 20 Wed	Sep 21 Thu	Sep 22 Fri
Ballroom			ICFP		PPDP	
Hibiscus	Haskell		RULE	HLCL		HOOTS
Dahlia	lunch	reception		SAIG	TIC	
Jasmine	Scheme					
Chez Chin		lunch	lunch	lunch	lunch	lunch
Marché Bonsecours				banquet		

**ICFP Program
Monday September 18**

8:45–9:45 Invited Speaker: *The Functional Guts of the Kleisli Query System*, Limsoon Wong (Kent Ridge Digital Labs)

Chair: Philip Wadler

9:45–10:15 Break

10:15–11:15 Session I

Chair: Shriram Krishnamurthi

10:15–10:45 *Regular Expression Types for XML*, Haruo Hosoya, Jérôme Vouillon, Benjamin Pierce (University of Pennsylvania)

10:45–11:15 *The Influence of Browsers on Evaluators*, Christian Queinnec (Université Paris 6)

11:30–12:30 Session II

Chair: Andrew Wright

11:30–12:00 *Static Enforcement of Security with Types*, Christian Skalka, Scott Smith (The Johns Hopkins University)

12:00–12:30 *Information Flow Inference For Free*, François Pottier, Sylvain Conchon (INRIA)

12:30–14:00 Lunch

14:00–15:30 Session III

Chair: Greg Morrisett

14:00–14:30 *Type-Safe Cast (Functional pearl)*, Stephanie Weirich (Cornell University)

14:30–15:00 *Typed Compilation of Inclusive Subtyping*, Karl Crary (Carnegie Mellon University)

15:00–15:30 *Fully Reflexive Intensional Type Analysis*, Valery Trifonov, Bratin Saha, Zhong Shao (Yale)

University)

15:30–16:00 Break

16:00–17:30 Session IV

Chair: Atsushi Ohori

16:00–16:30 *More Types for Nested Data Parallel Programming*, Manuel Chakravarty (University of New South Wales), Gabriele Keller (University of Technology, Sydney)

16:30–17:00 *FranTk – A declarative GUI language for Haskell*, Meurig Sage (University of Glasgow)

17:00–17:30 *Functional Programming in C++*, Yanis Smaragdakis, Brian McNamara (Georgia Institute of Technology)

17:30–17:45 Program chair’s report, plus a teaser

Breadth-First Numbering: Lessons from a Small Exercise in Algorithm Design (I), (*Functional pearl*), Chris Okasaki (Columbia University)

19:00–20:30 Reception celebrating the 10th anniversary of the Journal of Functional Programming hosted by ICFP and Cambridge University Press

ICFP Program
Tuesday September 19

8:45–9:45 Invited Speaker: *Advanced Module Systems: A Guide for the Perplexed*, Benjamin Pierce (University of Pennsylvania)

Chair: Xavier Leroy

9:45–10:15 Break

10:15–11:15 Session V

Chair: Richard Bird

10:15–10:45 *Breadth-First Numbering: Lessons from a Small Exercise in Algorithm Design (II)* (*Functional pearl*), Chris Okasaki (Columbia University)

10:45–11:15 *Calculating Linear Time Algorithms for Solving Maximum Weightsum Problems*, Isao Sasano, Zhenjiang Hu, Masato Takeichi (University of Tokyo), Mizuhito Ogawa (NTT)

11:30–12:30 Session VI

Chair: Susan Eisenbach

11:30–12:00 *Cheap Eagerness: Speculative Evaluation in a Lazy Functional Language*, Karl-Filip Faxen (KTH, Stockholm)

12:00–12:30 *An Operational Semantics for Parallel Lazy Evaluation*, Clem Baker-Finch (University of Canberra), David King (Motorola Labs), Phil Trinder (Heriot-Watt University)

12:30–14:00 Lunch

14:00–15:30 Session VII

Chair: Eugenio Moggi

14:00–14:30 *Recursive Monadic Bindings*, Levent Erkök, John Launchbury (Oregon Graduate Institute)

14:30–15:00 *Deriving Backtracking Monad Transformers (Functional pearl)*, Ralf Hinze (Universität Bonn)

15:00–15:30 *Intersection Types and Computational Effects*, Rowan Davies, Frank Pfenning (Carnegie Mellon University)

15:30–16:00 Break

16:00–17:30 Session VIII

Chair: Ralf Hinze

16:00–16:30 *Syntactic Accidents in Program Analysis: On the Impact of the CPS Transformation*, Olivier Danvy, Daniel Damian (BRICS, University of Aarhus)

16:30–17:00 *Recursive Types for Dummies (Functional pearl)*, Vladimir Gapeyev, Michael Levin, Benjamin Pierce (University of Pennsylvania)

17:00–17:30 *The Duality of Computation*, Pierre-Louis Curien (CNRS and Université Paris 7), Hugo Herbelin (INRIA)

17:30–18:00 Programming Contest Award Presentations

Chair: Greg Morrisett

ICFP Program
Wednesday September 20

8:45–9:45 Invited Speaker: *Combining Functional Programming and Hardware Verification*, Carl Seger (Intel)

Chair: Andrew Wright

9:45–10:15 Break

10:15–11:15 Session IX

Chair: Xavier Leroy

10:15–10:45 *Understanding Memory Allocation of Scheme Programs*, Manuel Serrano (University of Nice), Hans-J Boehm (Hewlett-Packard)

10:45–11:15 *Non-stop Haskell*, Tony Field, Andy Cheadle (Imperial College), Simon Marlow, Simon Peyton-Jones (Microsoft Research), Lyndon White (University of Western Australia)

11:30–12:30 Session X

Chair: Philip Wadler

11:30–12:00 *QuickCheck, A Lightweight Tool for Random Testing of Haskell Programs*, Koen Claessen, John Hughes (Chalmers University of Technology)

12:00–12:30 *Composing contracts: an adventure*

in financial engineering (Functional pearl), Simon Peyton-Jones (Microsoft Research), Jean-Marc Eber (LexiFi Technologies), Julian Seward (Glasgow University)

12:30–14:00 Lunch

19:00–22:00 PLI Conference Banquet at the Marché Bonsecours

PPDP Program
Wednesday September 20

12:30–14:00 Lunch

14:20–14:30 Opening

14:30–15:30 Invited Speaker: *From Logic to Stochastic Processes*, Prakash Panangaden (McGill University)

Chair: Maurizio Gabbrielli

15:30–16:00 Break

16:00–18:00 Session I

Chair: Frank Pfenning

16:00–16:30 *A Parallel Implementation for Optimal Lambda-Calculus Reduction*, Marco Pedicini (Consiglio Nazionale delle Ricerche), Francesco Quaglia (Università di Roma)

16:30–17:00 *Logical Relations, Data Abstraction, and Structured Fibrations*, John Power (University of Edinburgh), Edmund Robinson (Queen Mary & Westfield College)

17:00–17:30 *Operational Semantics and Extensionality*, Simona Ronchi Della Rocca (Università di Torino)

17:30–18:00 *A High Performance Erlang System*, Erik Johansson, Mikael Pettersson, Konstantinos Sagonas (Uppsala University)

19:00–22:00 PLI Conference Banquet at the Marché Bonsecours

PPDP Program
Thursday September 21

8:30–9:30 Invited Speaker: *Concurrent Constraint Programming and Linear Logic*, François Fages (INRIA Rocquencourt)

Chair: Franck van Breugel

9:35–10:35 Session II

Chair: Andrew Gordon

9:35–10:05 *A Framework for the Recursive Definition of Data Structures*, Jean-Louis Giavitto (Université de Paris-Sud)

10:05–10:35 *Declarative Event-Oriented Programming*, Conal Elliott (Microsoft Research)

10:35–11:00 Break

11:00–12:30 Session III

Chair: Michael Hanus

11:00–11:30 *Linear Logic Programming with Ordered Contexts*, Jeff Polakow (Carnegie Mellon University)

11:30–12:00 *Proof Construction and Non-Commutativity: a Cluster Calculus*, Claudia Faggian (Institut de Mathématiques de Luminy)

12:00–12:30 *A Bottom-up Semantics for LO*, Marco Bozzano, Giorgio Delzanno, Maurizio Martelli (Università di Genova)

12:30–14:00 Lunch

14:00–15:30 Session IV

Chair: Radhia Cousot

14:00–14:30 *Enhanced Sharing Analysis Technique: A Comprehensive Evaluation*, Roberto Bagnara, Enea Zaffanella (University of Parma), Patricia M. Hill (University of Leeds)

14:30–15:00 *A Characterization of Symmetric Semantics by Domain Complementation*, Roberto Giacobazzi, Isabella Mastroeni (Università di Verona)

15:00–15:30 *Concurrent Constraint Programming: Towards Probabilistic Abstract Interpretation*, Alessandra Di Pierro (Università di Pisa), Herbert Wiklicky (Imperial College)

15:30–16:00 Break

16:00–17:00 Session V

Chair: Claude Kirchner

16:00–16:30 *A Model for Comparing the Space Usage of Lazy Evaluators*, Adam Bakewell, Colin Runciman (University of York)

16:30–17:00 *Higher Order Unification via λ_{sc} -Style of Explicit Substitution*, Mauricio Ayala-Rincon (Universidade de Brasília), Fairouz Kamareddine (Heriot-Watt University)

PPDP Program
Friday September 22

8:30–9:30 Invited Speaker: *Proof-Carrying Code: Design, Implementation and Applications*, George Necula (University of California, Berkeley)

Chair: Greg Morrisett

9:35–10:35 Session VI

Chair: Gopalan Nadathur

9:35–10:05 *Justifying Proofs using Memo Tables*, Abhik Roychoudhury, C.R. Ramakrishnan, I.V. Ramakrishnan (SUNY Stony Brook)

10:05–10:35 *Semantic Analysis of Pointer Aliasing, Allocation and Disposal in Hoare Logic*, Cristiano Calcagno (Queen Mary & Westfield College and University of Genova), Samin Ishtiaq, Peter W. O’Hearn (Queen Mary & Westfield College)

10:35–11:00 **Break**

11:00–12:30 **Session VII**

Chair: François Fages

11:00–11:30 *Type-based Nondeterminism Checking in Functional Logic Programs*, Michael Hanus, Frank Steiner (Christian-Albrechts-Universität Kiel)

11:30–12:00 *A Precise Type Analysis of Logic Programs*, Lunjin Lu (The Oakland University)

12:00–12:30 *Efficient Abstract Interpretation using Component-Wise Homomorphism*, Jörg Köller, Markus Mohnen (RWTH Aachen)

12:30–14:00 **Lunch**

14:00–15:30 **Session VIII**

Chair: Amy Felty

14:00–14:30 *Extending Constraint Logic Programming with Open Functions*, Nikolay Pelov, Maurice Bruynooghe (K.U. Leuven)

14:30–15:00 *Efficient Memory Management in a Single Stack Prolog Machine*, Xining Li (Lakehead University)

15:00–15:30 *Continuations for Parallel Logic Programming*, Enea Todoran (Technical University of Cluj-Napoca), Nikolaos S. Papaspyrou (National Technical University of Athens)

15:30–16:00 **Break**

16:00–17:30 **Session IX**

Chair: Patricia M. Hill

16:00–16:30 *Solving Coverability Problems of Petri Nets by Partial Deduction*, Michael Leuschel, Helko Lehmann (University of Southampton)

16:30–17:00 *Symmetric Monoidal Sketches*, Martin Hyland (University of Cambridge), John Power (University of Edinburgh)

17:00–17:30 *Modular Resetting of Synchronous Data-flow Programs*, Gregoire Hamon, Marc Pouzet (Laboratoire d’informatique de Paris 6)

17:30–17:40 **Closing**

ICFP Conference Committee

General Chair: Martin Odersky, *EPFL Lausanne*
Program Chair: Philip Wadler, *Bell Labs, Lucent Technologies*

Local Host: Marc Feeley, *Université de Montréal*

Publicity Chair: Konstantin Läuffer, *Loyola University Chicago*

Program Committee:

Richard Bird, *Oxford University*
Craig Chambers, *University of Washington*
Charles Consel, *IRISA*
Susan Eisenbach, *Imperial College*
Fergus Henderson, *University of Melbourne*
Ralf Hinze, *Universität Bonn*
Shriram Krishnamurthi, *Rice University*
Xavier Leroy, *INRIA & Trusted Logic*
Eugenio Moggi, *Università di Genova*
Greg Morrisett, *Cornell University*
Atsushi Ohori, *JAIST*
Catuscia Palamidessi, *Pennsylvania State University*
Andrew Wright, *InterTrust*

PPDP Conference Committee

Conference Chair: Franck van Breugel, *York University*

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Maurizio Gabbrielli, *Università di Udine*
Frank Pfenning, *Carnegie Mellon University*

Program Committee:

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Zena Ariola, *University of Oregon*
Andrea Asperti, *Università di Bologna*
Frank de Boer, *Universiteit Utrecht*
Radhia Cousot, *Ecole Polytechnique*
Danny De Schreye, *K.U. Leuven*
Saumya Debray, *University of Arizona*
Thom Frühwirth, *LMU München*
Andrew Gordon, *Microsoft Research*
Doug Howe, *Carleton University*
Claude Kirchner, *LORIA & INRIA Nancy*
Naoki Kobayashi, *University of Tokyo*
Michael Maher, *Griffith University*
Greg Morrisett, *Cornell University*
Robert Nieuwenhuis, *Universitat Politècnica de Catalunya*
Christine Paulin, *LRI-Université Paris Sud*
Paul Tarau, *University of North Texas*
German Vidal, *Universidad Politècnica de Valencia*

Sponsorship

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PLI 2000 Workshops

Workshop Chair: Amy Felty, *University of Ottawa*

**Haskell Program
Sunday September 17**

8:30–10:00 Session I

Chair: Graham Hutton

8:30–9:00 *Lambda, Haskell as a Better Java*, Erik Meijer (Universiteit Utrecht), Sigbjørn Finne (Microsoft Research)

9:00–9:30 *Writing High-Performance Server Applications in Haskell, Case Study: A Haskell Web Server*, Simon Marlow (Microsoft Research)

9:30–10:00 *Haskell Server Pages: Functional Programming and the Battle for the Middle Tier*, Erik Meijer, Danny van Velzen (Universiteit Utrecht)

10:00–10:30 Break

10:30–12:30 Session II

Chair: Andy Gill

10:30–11:00 *An Overview of Edison*, Chris Okasaki (Columbia University)

11:00–11:30 *Combinator Parsers: From Toys to Tools*, Doaitse Swierstra (Universiteit Utrecht)

11:30–12:00 *Typed Logical Variables in Haskell*, Koen Claessen, Peter Ljunglof (Chalmers University of Technology)

12:00–12:30 10-minute slots

12:30–14:00 Lunch

14:00–15:30 Session III

Chair: Chris Okasaki

14:00–14:30 *Debugging Haskell by Observing Intermediate Data Structures*, Andy Gill (Oregon Graduate Institute)

14:30–15:00 *A Space-Semantics for Core Haskell*, Adam Bakewell, Colin Runciman (University of York)

15:00–15:30 10-minute slots

15:30–16:00 Break

16:00–18:00 Session IV

Chair: Erik Meijer

16:00–16:30 *Derivable Type Classes*, Ralf Hinze (Universität Bonn), Simon Peyton Jones (Microsoft Research)

16:30–17:00 *Data Field Haskell*, Jonas Hormerin, Bjorn Lisper (KTH, Stockholm)

17:00–17:30 *Pattern Guards and Transformational Patterns*, Martin Erwig (Oregon State University), Simon Peyton Jones (Microsoft Research)

17:30–18:00 Discussion: The Future of Haskell (Ralf Hinze)

Haskell Workshop Committee

Chair: Graham Hutton, *University of Nottingham*

Program Committee:

Richard Bird, *Oxford University*

Andy Gill, *Oregon Graduate Institute*

Ralf Hinze, *Universität Bonn*

Paul Hudak, *Yale University*

Erik Meijer, *Universiteit Utrecht*

Chris Okasaki, *Columbia University*

Tim Sheard, *Oregon Graduate Institute*

**HLCL Program
Wednesday September 20**

12:30–14:00 Lunch

14:20–14:30 Opening

14:30–15:20 Invited Speaker: *An Overview of Functional Nets*, Martin Odersky (EPFL Lausanne)

15:20–16:00 *Asynchronous Exceptions in Haskell*, Simon Marlow, Simon Peyton-Jones (Microsoft Research), Andrew Moran (Oregon Graduate Institute)

16:00–16:30 Break

16:30–17:20 Invited Speaker: *A Distributed Programming Language for Building Security Infrastructures*, Trevor Jim (AT&T Labs)

17:20–18:00 *A Distributed Calculus with Local Areas of Communication*, Tom Chothia, Ian Stark (University of Edinburgh)

18:00–18:10 Closing

HLCL Workshop Committee

Co-Chairs:

John Reppy, *Bell Labs*

Peter Sewell, *University of Cambridge*

Program Committee:

Cedric Fournet, *Microsoft Research*

Alan Jeffrey, *DePaul University*

Trevor Jim, *AT&T Labs*

Naoki Kobayashi, *University of Tokyo*

Uwe Nestmann, *Aalborg University*

Aleta Riccardi, *Bell Labs*

Gert Smolka, *Universität des Saarlandes*

HOOTS Program
Friday September 22

9:45–10:45 Invited Speaker: *A Second Glance at Feferman-Landin Logic*, Ian Mason (University of New England)

10:45–11:15 Break

11:15–12:45 Session I

11:15–11:45 *Syntactic Type Soundness for the Region Calculus*, Simon Helsen, Peter Thiemann (Universität Freiburg)

11:45–12:15 *A New Criterion for Safe Program Transformations*, Yasuhiko Minamide (University of Tsukuba and Japan Science & Technology Corporation)

12:15–12:45 *Efficient Substitution in Hoare Logic Expressions*, Andrew Appel, Kedar Swadi, Roberto Virga (Princeton University)

12:45–14:30 Lunch

14:30–15:30 Invited Speaker: *Weak Bisimulations by Decreasing Diagrams*, Cédric Fournet (Microsoft Research)

15:30–16:00 Break

16:00–17:00 Session II

16:00–16:30 *First-Order Semantics for Higher-Order Processes*, Michael Baldamus (University of Karlsruhe)

16:30–17:00 *Linear Lambda Calculus with Recursion*, Gavin Bierman (Warwick University), Andrew Pitts, Claudio Russo (Cambridge University)

HOOTS Workshop Committee

Chair: Alan Jeffrey, *DePaul University*

Program Committee:

Andrew Gordon, *Microsoft Research*

Robert Harper, *Carnegie Mellon University*

Andrew Pitts, *Cambridge University*

Julian Rathke, *Sussex University*

David Sands, *Chalmers University*

Davide Sangiorgi, *INRIA Sophia Antipolis*

Carolyn Talcott, *Stanford University*

RULE Program
Tuesday September 19

10:00–10:10 Opening

10:10–11:00 Session I

10:10–10:35 *From Syntactic Theories to Interpreters: A specification language and its compilation*, Yong Xiao, Zena Ariola (University of Oregon),

Michel Mauny (INRIA-Rocquencourt and New York University)

10:35–11:00 *An Approach to the Integration of Overlapping Rules in Standard ML*, Riccardo Pucella (Cornell University)

11:00–11:30 Break

11:30–12:45 Session II

11:30–11:55 *Static Analysis Technique for Equational Logic Programs*, Rakesh Verma (University of Houston)

11:55–12:20 *Rewriting with Layout*, Mark van den Brand, Jurgen Vinju (CWI)

12:20–12:45 *On Rule Based Approach to Construction of Logical Transformers*, Jaroslaw Kachniarz (Soft Computer Consultants), Andrzej Szaas (Warsaw University)

12:45–14:00 Lunch

14:00–15:15 Session III

14:00–14:25 *A Lambda-Calculus with Letrec, Case, Constructors and Non-Determinism*, Manfred Schmidt-Schauss, Michael Huber (Goethe Universität)

14:25–14:50 *The Light Lexicographic Path Ordering*, Adam Cichon, Jean-Yves Marion (LORIA & INRIA Nancy)

14:50–15:15 *Axioms for Rewriting Theory*, Marc Aiguier, Diane Bahrami, Catherine Dubois (Université d'Evry)

15:15–15:45 Break

15:45–17:00 Session IV

15:45–16:10 *Toward Rule-Based Visual Programming of Generic Visual Systems*, Mark Minas (Universität Erlangen-Nürnberg), Berthold Hoffmann (Universität Bremen)

16:10–16:35 *Partial-Order Relational Programming*, Juan Carlos Nieves, Mauricio Osorio (Universidad de las Americas), Fernando Zacarias, Eleazar Oropeza (Benemerita Universidad Autonoma de Puebla)

16:35–17:00 *The Concurrent Language Aldwych*, Matthew Huntbach (Queens Mary and Westfield College)

17:00–18:00 General Discussion

18:00–19:00 Demos

ASF+SDF, ELAN etc.

RULE Workshop Committee

Co-chairs:

Nachum Dershowitz, *Tel-Aviv University*

Claude Kirchner, *LORIA & INRIA Nancy*

Program Committee:

Egon Boerger, *Università di Pisa*
Mark van den Brand, *CWI*
Iliano Cervesato, *Naval Research Lab*
Alain Colmerauer, *Université de Marseille*
Jean-Yves Marion, *LORIA & INRIA Nancy*
José Meseguer, *SRI International*

Scheme Program Sunday September 17

9:00–10:10 Session I

Chair: Daniel P. Friedman

9:00–9:35 *GOld: a link-time optimizer for Scheme*, Dominique Boucher (Locus Dialogue, Inc.)

9:35–10:10 *SILK: a playful blend of Scheme and Java*, Kenneth R. Anderson (BBN Technologies), Timothy J. Hickey (Brandeis University), Peter Norvig (NASA Ames Research Center)

10:15–10:45 Break

10:45–11:45 Session II

Chair: Marc Feeley

10:45–11:05 *Implementing Metacast*, Oleg Kiselyov (Naval Postgraduate School, Monterey)

11:05–11:25 *Numerical Partial Differential Equations*, Bradley J. Lucier, (Purdue University)

11:25–11:45 *SGDL/Scheme: A High-Level Algorithmic Scheme Implementation for Projective Solid Modeling Programming*, Jean-Francois Rotge (Université de Montréal)

12:00–13:30 Lunch

13:30–15:15 Session III

Chair: Kent Dybvig

13:30–14:05 *BIT: A Very Compact Scheme System for Embedded Applications*, Danny Dubé (Université de Montréal)

14:05–14:40 *Automatic Generation of Compact Programs*, Mario Latendresse (Rice University)

14:40–15:15 *Writing Macros in CPS*, Erik Hilsdale, Daniel P. Friedman (Indiana University)

15:15–15:45 Break

15:45–16:45 Session IV

Chair: Manuel Serrano

15:45–16:05 *An Implementation of Transparent Migration on Standard Scheme*, Eijiro Sumii (University of Tokyo)

16:05–16:25 *Implementing Continuations with Threads*, Marc Feeley (Université de Montréal)

16:25–16:45 *Component Support for PLT Scheme*, Paul A. Steckler (Rice University)

16:50–18:00 Session V

Chair: Matthias Felleisen

Open Discussion: SRFI process, pre-SRFI presentations, the IEEE standard, etc.

Scheme Workshop Committee

Chair: Matthias Felleisen, *Rice University*

Program Committee:

Kent Dybvig, *Indiana University*

Marc Feeley, *Université de Montréal*

Daniel P. Friedman, *Indiana University*

Manuel Serrano, *Université de Nice*

Olin Shivers, *Massachusetts Institute of Technology*

SAIG Program Wednesday September 20

8:30–9:15 Invited Speaker: *Implementing Closed Domain-Specific Languages*, Richard Kieburtz (Oregon Graduate Institute)

9:15–9:40 *Compiling Embedded Languages*, Conal Elliott, Sigbjørn Finne (Microsoft Research), Oege de Moor (Oxford University)

9:40–10:05 *Lightweight and Generative Components II: Binary-Level Components*, Samuel Kamin, Miranda Callahan, Lars Clausen (University of Illinois at Urbana-Champaign)

10:05–10:25 Break

10:25–11:10 Invited Speaker: *Refinements and Automatic Development of Software*, Don Batory (University of Texas at Austin)

11:10–11:35 *Fragmental Specialization*, Simon Helsen, Peter Thiemann (Universität Freiburg)

11:35–12:00 *A New Termination Condition for Specialization*, Litong Song, Yoshihiko Futamura (Waseda University)

12:00–13:20 Lunch

13:20–14:05 Invited Speaker: *Reasoning About Staged Computation*, Frank Pfenning (Carnegie Mellon University)

14:05–14:30 *Multi-Stage Imperative Languages: A Conservative Extension Result*, Cristiano Calcagno, Eugenio Moggi (Università di Genova)

14:30–14:55 *Specification and Correctness of Lambda Lifting*, Adam Fischbach, John Hannan (Penn State University)

15:05–15:50 Invited Speaker: *Specialization of System Programs: Lessons and Perspectives*, Gilles Muller (IRISA)

15:50–16:15 *On Jones-Optimal Specialization for*

Strongly Typed Languages, Henning Makholm (University of Copenhagen)

16:15–16:25 Break

16:25–17:25 Panel presentations

Pragmatic Aspects of Reusable Program Generators, Norman Ramsey (Harvard University)

Type-Based Useless-Code Elimination for Functional Programs, Stefano Berardi, Mario Coppo, Ferruccio Damiani (Università di Torono), Paola Giannini (Università di Torono and Università del Piemonte Orientale)

Code Generators for Automatic Tuning of Numerical Kernels: Experiences with FFTW, Rich Vuduc, Jim Demmel (University of California, Berkeley)

Generating Data Analysis Programs from Statistical Models, Bernd Fischer, Johann Schumann, Thomas Pressburger (NASA Ames Research Center)

17:25–18:00 Panel Discussion

SAIG Workshop Committee

Chair: Walid Taha, *Chalmers University of Technology*

Program Committee:

Cliff Click, *Sun Microsystems*

Rowan Davies, *Carnegie Mellon University*

Julia Lawall, *DIKU*

Torben Mogensen, *DIKU*

Suresh Jagannathan, *NEC Research*

Tim Sheard, *Oregon Graduate Institute*

**TIC Program
Thursday September 21**

9:00–10:30 Session I

Chair: Trevor Jim

9:00–9:30 *Scalable Certification for Typed Assembly Language*, Dan Grossman, Greg Morrisett (Cornell University)

9:30–10:00 *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), Joe Wells (Heriot-Watt University), Jeffrey Considine (Boston University)

10:00–10:30 *Sound and Complete Elimination of Singleton Kinds*, Karl Crary (Carnegie Mellon University)

10:30–11:00 Break

11:00–12:30 Session II

Chair: Franklyn Turbak

11:00–11:30 *A Type System for JVM Threads*,

Gaetano Bigliardi, Cosimo Laneve (University of Bologna)

11:30–12:00 *Garbage Collection Based on Linear Type Systems*, Atsushi Igarashi, Naoki Kobayashi (University of Tokyo)

12:00–12:30 *Optimizing Message Sends in Object-Oriented Languages Through Type-Invariant Region Analysis*, Mark Leair (The Portland Group), Santosh Pande (University of Cincinnati)

12:30–14:00 Lunch

14:00–15:30 Session III

Chair: Andrew Kennedy

14:00–14:30 *Towards an Abstract Model of Java Dynamic Linking and Verification*, Sophia Drossopoulou (Imperial College)

14:30–15:00 *Safe and Flexible Dynamic Linking of Native Code*, Michael Hicks (University of Pennsylvania), Stephanie Weirich (Cornell University), Karl Crary (Carnegie Mellon University)

15:00–15:30 *Sharing in Typed Module Assembly Language*, Dominic Duggan (Stevens Institute of Technology)

15:30–16:00 Break

16:00–17:30 Session IV

Chair: Dominic Duggan

16:00–16:30 *Alias Types for Recursive Data Structures*, David Walker, Greg Morrisett (Cornell University)

16:30–17:00 *Simple Usage Polymorphism*, Keith Wansbrough (Cambridge University), Simon Peyton Jones (Microsoft Research)

17:00–17:30 *Fully Reflexive Intensional Type Analysis in Type Erasure Semantics*, Bratin Saha, Valery Trifonov, Zhong Shao (Yale University)

TIC Workshop Committee

General Chair: Karl Crary, *Carnegie Mellon University*

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