FCRC '96

Final Program

ACM SIGPLAN '96 Conference on Programming Language Design and Implementation

May 21-24, 1996 ▲ Downtown Marriott ▲ Philadelphia, PA

General Chair:
Charles N. Fischer (Wisconsin)

Program Chair:
Michael Burke (IBM Watson)

Program Committee:
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Michael Burke (IBM Watson)
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Advisory Committee:
Barbara Ryder (Rutgers)
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Marc Shapiro (Wisconsin)

Tuesday, May 21, 1996

8:00-9:00
Continental Breakfast
Room: K-L Prefunction

9:00-12:00 Tutorial T1
• *Object-Oriented Analysis and Design*
Richard J. LeBlanc, Georgia Tech
Room: Salon K & L

10:30-10:50 T1 Coffee Break
Room: K-L Prefunction

12:00-1:30 Luncheon
(Full Day Registrants)
Room: 411&412

1:30-4:30 Tutorial T2
• *Teaching C++ in Introductory Courses*
Owen Astrachan, Duke
Room: Salon K & L

1:30-2:50 Tutorial T3
• *Object-based vs. Class-based Languages*
Luca Cardelli, Digital Equipment
Room: Salon C

2:50-3:10
T2,T3,T4 Coffee Break
Room: Prefunction

3:10-4:30 Tutorial T4
• *The Java Programming Language*
Guy L. Steele Jr., Sun Microsystems
Room: Salon C

Wednesday, May 22, 1996

7:15-8:00
Continental Breakfast
Room: Franklin Hall

8:00-9:00 FCRC Plenary
• *Information Technology is the Lever, But Where Shall We Stand?*
• William A. Wulf, Virginia
Room: Salon A&B&E&F

9:30-10:30 Session S1
Instruction Scheduling
Room: Salon G
Chair: Monica Lam, Stanford
• *Software Pipelining Showdown: Optimal vs. Heuristic Methods in a Production Compiler*
J. Ruttenberg, G. Gao, A. Stouchinin, W. Lichtenstein
• *A Reduced Multipipeline Machine Description that Preserves Scheduling Constraints*
A. Eichenberger, E. Davidson

10:30-11:00 Coffee Break
Room: Franklin Hall

11:00-12:30 Session S2
Debugging
Room: Salon G
Chair: Robert Halstead, DEC
• *Catching Bugs in the Web of Program Invariants*
C. Flanagan, M. Flatt, S. Krishnamurthi, S. Weirich, M. Felleisen
• *Source-Level Debugging of Scalar Optimized Code*
A. Adl-Tabatabai, T. Gross
• *Static Detection of Dynamic Memory Errors*
D. Evans

12:30-2:00 Luncheon
Room: Franklin Hall

2:00- 3:30 Session S3
Parallelizing Compilers
Room: Salon G
Chair: K. McKinley, Massachusetts
- *Commutativity Analysis: A New Analysis Framework for Parallelizing Compilers*
  M. Rinard, P. Diniz
- *Global Communication Analysis and Optimization*
  S. Chakrabarti, M. Gupta, J. D. Choi
- *GUM: A Portable Parallel Implementation of Haskell*
  P. Trinder, K. Hammond, J. Mattson Jr, A. Partridge, S. Peyton Jones

3:30-4:00 Coffee Break
Room: Franklin Hall

4:00-5:30 Session S4
Implementation Techniques
Room: Salon G
Chair: R. Cartwright, Rice
- *Simple Garbage-Collector-Safety*
  H. Boehm
- *Representing Control in the Presence of One-Shot Continuations*
  C. Bruggeman, O. Waddell, R. Dybvig
- *Printing Floating-Point Numbers Quickly and Accurately*
  R. Burger, R. Dybvig

5:30-6:00
Report by the Program Chair
Room: Salon G

6:00-10:00 FCRC Outing
An Evening of Fellowship and Fun at the Franklin Institute

Thursday, May 23, 1996

7:15-8:00
Continental Breakfast
Room: Franklin Hall

8:00-9:00 FCRC Plenary
- *Designing Your Own Multi-threaded Processor*
  Burton Smith, Tera Computer
  Room: Salon A&B&E&F

9:30- 10:30 Session S5
New Directions
Room: Salon G
Chair: Michael Burke, IBM
- *Practical Program Analysis Using General Purpose Logic Programming Systems — A Case Study*
  S. Dawson, C. Ramakrishnan, D. Warren
- *Efficient and Language-Independent Mobile Programs*
  A. Adl-Tabatabai, G. Langdale, S. Lucco, R. Wahbe

10:30-11:00 Coffee Break
Room: Franklin Hall

11:00-12:30 Session S6
Run-time Code Generation
Room: Salon G
Chair: B. Steffen, Passau
- *Optimizing ML with Run-Time Code Generation*
  P. Lee, M. Leone
- *Fast, Effective Dynamic Compilation*
  J. Auslander, M. Philipose, C. Chambers, S. Eggers, B. Bershad
- *VCODE: a Retargetable, Extensible, Very Fast Dynamic Code Generation System*
  D. Engler

12:30-2:00 Luncheon
Room: Franklin Hall

2:00-3:30 Session S7
Functional Language Impl.
Room: Salon G
Chair: F. Henglein, DIKU
- *Simple Objects for Standard ML*
  J. Reppy, J. Riecke
- *TIL: A Type-Directed Optimizing Compiler for ML*
  D. Tarditi, G. Morrisett, P. Cheng, C. Stone, R. Harper, P. Lee
- *Flow-directed Inlining*
  S. Jagannathan, A. Wright

3:30-4:00 Coffee Break
Room: Franklin Hall

4:00-5:30 Session S8
Currying/Partial Evaluation
Room: Salon G
Chair: Tom Reps, Wisconsin
- *Realistic Compilation by Partial Evaluation*
  M. Sperber, P. Thiemann
- *Data Specialization*
  T. Knoblock, E. Ruf
- *Relocating Machine Instructions by Currying*
  N. Ramsey

5:30-6:00
Open SIGPLAN Meeting
Room: Salon G

6:30-8:30
Joint reception with ICFP
Room: Salon F
- *SIGPLAN Distinguished Service Award Ceremony*

Friday, May 24, 1996

7:15-8:00
Continental Breakfast
Room: Franklin Hall

8:00-9:00 FCRC Plenary
- *Copyright? Protection?*
  Cynthia Dwork, IBM
  Room: Salon A&B&C&D&E&F

9:30-11:00 Session S9
Testing and Verification
Room: Salon H
Chair: D. Grunwald, Colorado
- *Teapot: Language Support for Writing Memory Coherence Protocols*
  S. Chandra, B. Richards, J. Larus
- *Target-Sensitive Construction of Diagnostic Programs for Procedure Calling Sequence Generators*
  M. Bailey, J. Davidson
- *Replay For Concurrent Non-Deterministic Shared Memory Applications*
  M. Russinovich, B. Cogswell

11:00-11:30 Coffee Break
Room: Franklin Hall

11:30-1:00 Session S10
Program Analysis
Room: Salon H
Chair: W. Landi, Siemens
- *Data Flow Frequency Analysis*
  G. Ramalingam
- *A New Framework for Exhaustive and Incremental Data Flow Analysis Using DJ Graphs*
  V. Sreedhar, G. Gao, Y. Lee
- *A Framework for Generalized Control Dependence*
  G. Bilardi, K. Pingali

6:00-7:30 FCRC Town Hall
- *Our Precarious Future: Who Will Fund Computing Research & Why*
  Room: Salon F
  Moderator: Dave Patterson