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Nota di contenuto	Invited Talk -- A CLP Approach to Modelling Systems -- Session 1 -- An Algebraic Approach to Bi-directional Updating -- Network Fusion -- Session 2 -- Translation of Tree-Processing Programs into Stream-Processing Programs Based on Ordered Linear Type -- An Implementation of Subtyping Among Regular Expression Types -- An Implementation Scheme for XML Transformation Languages Through Derivation of Stream Processors -- Session 3 -- Detecting Software

Defects in Telecom Applications Through Lightweight Static Analysis: A War Story -- History Effects and Verification -- Controlled Declassification Based on Intransitive Noninterference -- Session 4 -- A Concurrent System of Multi-ported Processes with Causal Dependency -- Concurrency Combinators for Declarative Synchronization -- A Uniform Reduction Equivalence for Process Calculi -- Invited Talk -- Substructural Operational Semantics and Linear Destination-Passing Style (Invited Talk) -- Session 5 -- PType System: A Featherweight Parallelizability Detector -- A Type Theory for Krivine-Style Evaluation and Compilation -- Region-Based Memory Management for a Dynamically-Typed Language -- Session 6 -- Protocol Specialization -- Automatic Generation of Editors for Higher-Order Data Structures -- A MATLAB-Based Code Generator for Sparse Matrix Computations -- Session 7 -- D-Fusion: A Distinctive Fusion Calculus -- A Functional Language for Logarithmic Space -- Build, Augment and Destroy, Universally -- Free  $\lambda$ -Monoids: A Higher-Order Syntax with Metavariables -- Invited Talk -- The Scala Experiment – Can We Provide Better Language Support for Component Systems? -- Session 8 -- Pointcuts as Functional Queries -- Formal Design and Verification of Real-Time Embedded Software -- Session 9 -- McJava – A Design and Implementation of Java with Mixin-Types -- A Relational Model for Object-Oriented Designs -- Exploiting Java Objects Behavior for Memory Management and Optimizations.

## Sommario/riassunto

On behalf of the organizing committee I would like to welcome you all to the second Asian Symposium on Programming Languages and Systems (APLAS 2004) held in Taipei on November 4–6, 2004. Since the year 2000, researchers in the area of programming languages and systems have been meeting annually in Asia to present their most recent research results, thus contributing to the advancement of this research area.

The last four meetings were held in Singapore (2000), Daejeon (2001), Shanghai (2002), and Beijing (2003). These meetings were very fruitful and provided an excellent venue for the exchange of research ideas, findings and experiences in programming languages and systems. APLAS 2004 is the 5th such meeting and the second one in symposium setting. The 1st symposium was held in Beijing last year. The success of the APLAS series is the collective result of many people's contributions. For APLAS 2004, I would like to thank all the members of the Program Committee, in particular the Program Chair Wei-Ngan Chin, for their hard work in putting together an excellent program.

I am most grateful to invited speakers, Joxan Jaffar, Frank Pfenning, and Martin Odersky, who have traveled a long way to deliver their speeches at APLAS 2004. I would like to thank all the referees, who helped review the manuscripts, the authors, who contributed to the proceedings of APLAS 2004, the members of the Organizing Committee, who made considerable effort to organize this event, and all the participants present at this meeting. Without your support this symposium would not have been possible. Finally I would like to acknowledge the support of the Asian Association for Foundation of Software and Academia Sinica, Taiwan.