

APLAS aims at stimulating programming language research by providing a forum for the presentation of latest results and the exchange of ideas in topics concerned with programming languages and systems. APLAS is based in Asia, but is an international forum that serves the worldwide programming language community.

APLAS is sponsored by the Asian Association for Foundation of Software (AAFS) founded by Asian researchers in cooperation with many researchers from Europe and the USA, and National Natural Science Foundation of China (NSFC). Proceedings of the past symposiums were published in Springer-Verlag's LNCS 2895, 3302, 3780, 4279, 4807, 5356, and 5904.

The symposium is devoted to all topics ranging from foundational to practical issues in programming languages and systems. Presented papers are expected in the following areas:

- semantics, logics, foundational theory;
- design of languages and foundational calculi;
- type systems;
- compilers, interpreters, abstract machines;
- program derivation, analysis, transformation;
- software security, safety, verification;
- concurrency, constraints, domain-specific languages;
- tools for programming, verification, implementation.

For more details please visit
<http://basics.sjtu.edu.cn/conference/aplas2010/>

APLAS 2010

Location

Hengshan Hotel

534 Hengshan Road, Shanghai, 200030, China
Tel: +86-21-64377050 Fax: +86-21-64333443

Invited Speakers

| | |
|----------------|---|
| Gerwin Klein | National ICT Australia |
| Dale Miller | INRIA Saclay - Ile-de-France |
| Mingsheng Ying | Tsinghua University & University of Technology Sydney |
| ZHOU Chaochen | Chinese Academy of Sciences |

Organizers

General Chair

Yuxi Fu Shanghai Jiao Tong University, China

Program Chair

Kazunori Ueda Waseda University, Japan

Program Committee

| | |
|--------------------|--|
| Roberto Amadio | Universite Paris Diderot, France |
| Lennart Beringer | Princeton University, USA |
| Dino Distefano | Queen Mary, University of London, UK |
| Yuxi Fu | Shanghai Jiao Tong University, China |
| Joxan Jaffar | National University of Singapore, Singapore |
| Yukiyoshi Kameyama | University of Tsukuba, Japan |
| Gabriele Keller | University of New South Wales, Australia |
| Ralf Laemmel | University of Koblenz-Landau, Germany |
| Aditya V. Nori | Microsoft Research India, India |
| Sungwoo Park | Pohang University of Science and Technology, Korea |
| Sanjiva Prasad | Indian Institute of Technology Delhi, India |
| Christian Schulte | Royal Institute of Technology, Sweden |
| Eijiro Sumii | Tohoku University, Japan |
| Alwen Tiu | Australian National University, Australia |
| Yih-Kuen Tsay | National Taiwan University |
| Kazunori Ueda | Waseda University, Japan |
| Hongwei Xi | Boston University, USA |
| Jian Zhang | Chinese Academy of Sciences, China |

Local Arrangements Chair

Xiaoju Dong Shanghai Jiao Tong University, China

Poster Session Chair

Guoqiang Li Shanghai Jiao Tong University, China

APLAS 2010

The Eighth Asian Symposium on Programming Languages and Systems

Shanghai, 28 Nov – 1 Dec



Asian Association for Foundation of Software
Shanghai Jiao Tong University

Programme

28 November (Sunday)

14:30-16:00 **Tutorial I : Probabilistic testing semantics**

Yuxin Deng

16:00-16:30 Coffee break

16:30-18:00 **Tutorial II: A Logical Mix of Approximation and Separation**

Aquinas Hobor, Robert Dockins

18:30-20:30 Reception (Xi's Garden)

29 November (Monday)

09:00-09:15 Opening

09:15-10:15 **Keynote Address : A Calculus for Hybrid CSP**

ZHOU Chaochen

10:15-10:45 Coffee break **(Group Photos)**

10:45-12:15 **Typechecking Higher-Order Security Libraries**

Karthikeyan Bhargavan, Cedric Fournet, Nataliya Guts

Deriving Type Systems and Implementations for Coroutines

Konrad Anton, Peter Thiemann

Liberal Typing for Functional Logic Programs

Francisco J. Lopez-Fraguas, Enrique Martin-Martin, Juan Rodriguez-Hortala

12:15-13:45 Lunch break

13:45-15:15 **A Provably Correct Stackless Intermediate Representation for Java Bytecode**

Delphine Demange, Thomas Jensen, David Pichardie

JNI Light: An Operational Model for the Core

JNI Gang Tan

An interactive tool for analyzing embedded SQL queries [system and tool presentation]

Aivar Annamaa, Andrey Breslav, Jevgeni Kabanov, Varmo Vene

15:15-15:45 Coffee break

15:45-16:45 **Invited talk : Foundations of Quantum Programming**

Mingsheng Ying

16:45-17:00 Short break

17:00-18:00 **Simple and Precise Widenings for H-Polyhedra**

Axel Simon, Liqian Chen

Metric Spaces and Termination Analyses

Aziem Chawdhary, Hongseok Yang

18:30-20:30 Dinner (Jiangong Jinjiang Hotel)

30 November (Tuesday)

09:00-10:00 **Invited Talk: From a Verified Kernel Towards Verified Systems**

Gerwin Klein

10:00-10:30 Coffee break

10:30-12:00 **Amortized Resource Analysis with Polymorphic Recursion and Partial Big-Step Operational Semantics**

Jan Hoffmann and Martin Hofmann

Interprocedural Control Flow Reconstruction

Andrea Flexeder, Helmut Seidl, Michael Petter, Bogdan Mihaila

Data Structure Fusion

Peter Hawkins, Alex Aiken,

Kathleen Fisher, Martin Rinard, Mooly Sagiv

12:00-13:30 Lunch break

13:30-15:00 **Categorical Descriptive Composition**

Shin-ya Katsumata

Bisimulation proof methods in a path-based specification language for polynomial coalgebras

Xiacong Zhou, Yongji Li, Wenjun Li, Haiyan Qiao, Zhongmei Shu

Context-Preserving XQuery Fusion

Hiroyuki Kato, Soichiro Hidaka, Zhenjiang Hu, Keisuke Nakano, Yasunori Ishihara

15:00-15:30 Coffee break

15:30-16:15 Poster Session

16:15-17:15 **Index-Compact Garbage Collection**

Liangliang Tong, Francis C.M. Lau

Live heap space bounds for real-time systems

Martin Kero, Pawel Pietrzak, Johan Nordlander

18:00-20:30 Banquet (Xiao Nan Guo, Pudong)

1 December (Wednesday)

09:00-10:00 **Invited Talk: Reasoning about Computations Using Two-Levels of Logic**

Dale Miller

10:00-10:30 Coffee break

10:30-12:00 **A Quick Tour of the VeriFast Program Verifier** [system and tool presentation]

Bart Jacobs, Jan

Smans, Frank Piessens

Verification of Tree-Processing Programs via Higher-Order Model Checking

Hiroshi Unno, Naoshi Tabuchi, Naoki Kobayashi

Automatically Inferring Quantified Loop

Invariants by Algorithmic Learning from Simple Templates

Soonho Kong, Yungbum Jung, Cristina

David, Bow-yaw Wang, Kwangkeun Yi

12:00-13:30 Lunch break

13:30-15:00 **Relational Parametricity for a Polymorphic Linear Lambda Calculus**

Jianzhou Zhao, Qi Zhang, Steve Zdancewic

A Certified Implementation of ML with Structural Polymorphism

Jacques Garrigue

Type Inference for Sublinear Space Functional Programming

Ugo Dal Lago, Ulrich Schoepp

15:00-15:30 Coffee break

15:30-17:00 **Liveness of Communicating Transactions**

Edsko de Vries, Vasileios Koutavas, Matthew Hennessy

Model Independent Order Relations for Processes

Chaodong He

Concurrency Can't Be Observed, Asynchronously

Paolo Baldan, Filippo Bonchi, Fabio Gadducci, Giacomina

Monreale