

# APLAS 2007

## The Fifth ASIAN Symposium on Programming Languages and Systems

National University of Singapore

Singapore, 29Nov - 1Dec 2007

<http://www.comp.nus.edu.sg/~aplas07/>

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

Proceedings of the past symposiums were published in Springer-Verlag's LNCS 2895, 3302, 3780, and 4279.



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
- type systems, language design
- program analysis, optimization, transformation
- software security, safety, verification
- compiler systems, interpreters, abstract machines
- domain-specific languages and systems
- programming tools and environments

# APLAS 2007

## Location:

APLAS'07 will be held at **Kent Ridge Guild House**, National University of Singapore.

## Invited Speakers:

- Vincent Danos** (University of Paris VII & CNRS, France)
- Sriram Rajamani** (Microsoft Research, India)
- Vijay Saraswat** (IBM TJ Watson Research Lab, USA)

## Organizers:

**General Chair:**  
Joxan Jaffar (National University of Singapore)

**Program Chair:**  
Zhong Shao (Yale University, USA)

## Program Committee:

- Lars Birkedal (IT University of Copenhagen, Denmark)
- Martin Hofmann (University of Munich, Germany)
- Kohei Honda (Queen Mary, University of London, UK)
- Atsushi Igarashi (Kyoto University, Japan)
- Suresh Jagannathan (Purdue University, USA)
- Annie Liu (State University of New York, USA)
- Shin-Cheng Mu (Academia Sinica, Taiwan)
- Henrik Nilsson (University of Nottingham, UK)
- Michael Norrish (NICTA, Australia)
- Jens Palsberg (University of California, Los Angeles, USA)
- G. Ramalingam (Microsoft Research, India)
- Zhendong Su (University of California, Davis, USA)
- Martin Sulzmann (NUS, Singapore)
- Eijiro Sumii (Tohoku University, Japan)
- Jerome Vouillon (CNRS, France)
- Kwangkeun Yi (Seoul National University, Korea)
- Jian Zhang (Chinese Academy of Sciences, China)

**Poster Session Chair:**  
Eijiro Sumii (Tohoku University, Japan)

**Local Arrangement Chair:**  
Wei-Ngan Chin (National University of Singapore)

**Conference Secretary:**  
Ms Ho Siew Foong (National University of Singapore)

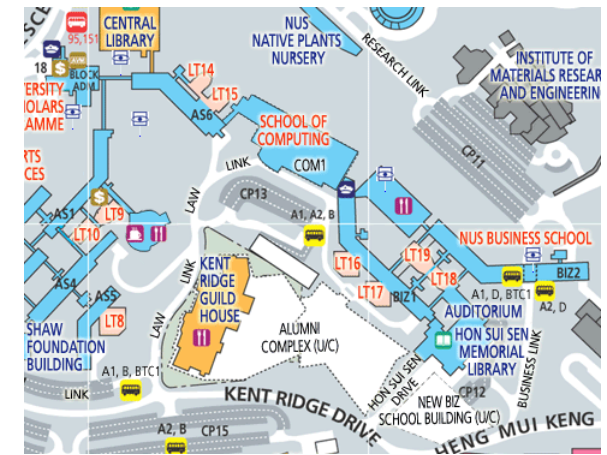
## Sponsors:

The symposium is organized by the **School of Computing, National University of Singapore**, and sponsored by the **Asian Association for Foundation of Software and Lee Foundation**.

# APLAS 2007

## Bus Transfer Schedule:

Date	From	To	Time of Pick-up
29Nov	Hotel Rendezvous	NUS (Guild House)	08:15
	NUS (COM1)	Hotel Rendezvous	20:30
30Nov	Hotel Rendezvous	NUS (Guild House)	08:45
	NUS (Guild House)	Hotel Rendezvous	17:30
	NUS (COM1)	Hotel Rendezvous	18:30
1Dec	Hotel Rendezvous	NUS (Guild House)	08:45
	NUS (Guild House)	Hotel Rendezvous	17:30



Kent Ridge Guild House and COM1 Campus Map



COM1 Entrance

<b>APLAS 2007 - Day I</b> <b>29 November (Thursday)</b>	
9:15 - 9:30	<b>Opening note</b>
9:30 - 10:30	<b>Invited talk #1</b> (Session Chair: Joxan Jaffar) <i>X10: Programming Parallel Machines, Productively</i> <b>Vijay Saraswat</b> (IBM TJ Watson Research Lab)
10:30 - 11:00	<b>Tea break</b>
11:00 - 12:30	<b>Session 1</b> (Session Chair: Zhong Shao) <ul style="list-style-type: none"> <li>• <i>The Nuggetizer: Abstracting Away Higher-Orderness for Program Verification</i> Paritosh Shroff (Johns Hopkins University) Christian Skalka (University of Vermont) Scott F. Smith (Johns Hopkins University)</li> <li>• <i>Local Reasoning for Storable Locks and Threads</i> Alexey Gotsman (University of Cambridge) Josh Berdine (Microsoft Research) Byron Cook (Microsoft Research) Noam Rinetzkyy (Tel Aviv University) Mooly Sagiv (Tel Aviv University)</li> <li>• <i>Monadic, Prompt Lazy Assertions in Haskell</i> Frank Huch (CAU Kiel) Olaf Chitil (University of Kent)</li> </ul>
12:30 - 13:45	<b>Lunch break</b>
13:45 - 15:15	<b>Session 2</b> (Session Chair: Martin Sulzmann) <ul style="list-style-type: none"> <li>• <i>Translation Correctness for First-Order Object-Oriented Pattern Matching</i> Burak Emir (EPFL Lausanne) Qin Ma (OFFIS) Martin Odersky (EPFL Lausanne)</li> <li>• <i>Persistent Oberon: A Programming Language with Integrated Persistence</i> Luc Blaser (ETH Zurich)</li> <li>• <i>More Typed Assembly Languages for Confidentiality</i> Dachuan Yu (DoCoMo Communication Labs USA)</li> </ul>
15:15 - 16:30	<b>Poster Session</b> (Session Chair: Eijiro Sumii)
16:30 - 17:30	<b>Session 3</b> (Session Chair: Tetsuo Ida) <ul style="list-style-type: none"> <li>• <i>A Novel Test Case Generation Method for Prolog Programs Based on Call Patterns Semantics</i> Lingzhong Zhao (Guilin Univ of Electronic Technology) Tianlong Gu (Guilin Univ of Electronic Technology) Junyan Qian (Guilin Univ of Electronic Technology) Guoyong Cai (Guilin Univ of Electronic Technology)</li> <li>• <i>On a Tighter Integration of Functional and Logic Programming</i> Frank Huch (CAU Kiel) Bernd Brassel (CAU Kiel)</li> </ul>
18:00 - 20:00	<b>Reception</b> Held at COM1, level B1

<b>APLAS 2007 - Day II</b> <b>30 November (Friday)</b>	
9:30 - 10:30	<b>Invited talk #2</b> (Session Chair: Zhong Shao) <i>Scalable Simulation of Biological Signaling Networks</i> <b>Vincent Danos</b> (Univ of Paris VII & CNRS)
10:30 - 11:00	<b>Tea break</b>
11:00 - 12:30	<b>Session 4</b> (Session Chair: Kohei Honda) <ul style="list-style-type: none"> <li>• <i>Timed, Distributed, Probabilistic, Typed Processes</i> Martin Berger (Imperial College London) Nobuko Yoshida (Imperial College London)</li> <li>• <i>A Probabilistic Applied Pi-Calculus</i> Jean Goubault-Larrecq (ENS Cachan) Catuscia Palamidessi (Ecole Polytechnique) Angelo Troina (ENS Cachan &amp; Ecole Polytechnique)</li> <li>• <i>Type-Based Verification of Correspondence Assertions for Communication Protocols</i> Daisuke Kikuchi (Tohoku University) Naoki Kobayashi (Tohoku University)</li> </ul>
12:30 - 14:00	<b>Lunch break</b>
14:00 - 15:30	<b>Session 5</b> (Session Chair: Shin-Cheng Mu) <ul style="list-style-type: none"> <li>• <i>Deriving Compilers and Virtual Machines for a Multi-Level Language</i> Atsushi Igarashi (Kyoto University) Masashi Iwaki (Hitachi, Ltd)</li> <li>• <i>Finally Tagless, Partially Evaluated (Tagless Staged) Interpreters for Simpler Typed Languages</i> Jacques Carette (McMaster University) Oleg Kiselyov (FNMOG) Chung-chieh Shan (Rutgers University)</li> <li>• <i>Polymorphic Delimited Continuations</i> Kenichi Asai (Ochanomizu University) Yukiyoshi Kameyama (University of Tsukuba)</li> </ul>
15:30 - 16:00	<b>Tea break</b>
16:00 - 17:30	<b>Session 6</b> (Session Chair: Kwangkeun Yi) <ul style="list-style-type: none"> <li>• <i>Adjunct Elimination in Context Logic for Trees</i> Cristiano Calcagno (Imperial College London) Thomas Dinsdale-Young (Imperial College London) Philippa Gardner (Imperial College London)</li> <li>• <i>Positive Arithmetic without Exchange is a Subclassical Logic</i> Stefano Berardi (University of Torino) Makoto Tatsuta (National Institute of Informatics, Japan)</li> <li>• <i>Mixed Inductive/Coinductive Types and Strong Normalization</i> Andreas Abel (University of Munich)</li> </ul>
19:00 - 21:00	<b>Banquet</b> Held at Rendezvous Hotel

<b>APLAS 2007 - Day III</b> <b>1 December (Saturday)</b>	
9:30 - 10:30	<b>Invited talk #3</b> (Session Chair: Joxan Jaffar) <i>Static and Dynamic Analysis: Better Together</i> <b>Sriram Rajamani</b> (Microsoft Research India)
10:30 - 11:00	<b>Tea break</b>
11:00 - 12:30	<b>Session 7</b> (Session Chair: Wei-Ngan Chin) <ul style="list-style-type: none"> <li>• <i>The Semantics of "Semantic Patches" in Coccinelle: Program Transformation for the Working Programmer</i> Neil Jones (University of Copenhagen) Rene Rydhof Hansen (University of Copenhagen)</li> <li>• <i>An Efficient SSA-based Algorithm for Complete Global Value Numbering</i> Jiu-Tao Nie (Peking University) Xu Cheng (Peking University)</li> <li>• <i>A Systematic Approach to Probabilistic Pointer Analysis</i> Alessandra Di Pierro (University of Verona) Chris Hankin (Imperial College London) Herbert Wiklicky (Imperial College London)</li> </ul>
12:30 - 14:00	<b>Lunch break</b>
14:00 - 15:30	<b>Session 8</b> (Session Chair: Naoki Kobayashi) <ul style="list-style-type: none"> <li>• <i>Complete Lattices and Up-to Techniques</i> Damien Pous (ENS Lyon)</li> <li>• <i>A Trace Based Bisimulation for the Spi Calculus: An Extended Abstract</i> Alwen Tiu (Australian National University)</li> <li>• <i>CCS with Replication in the Chomsky Hierarchy: The Expressive Power of Divergence</i> Frank Valencia (Ecole Polytechnique) Cinzia Di Giusto (University of Bologna) Jesus Aranda (Ecole Polytechnique) Mogens Nielsen (University of Aarhus)</li> </ul>
15:30 - 16:00	<b>Tea break</b>
16:00 - 17:00	<b>Session 9</b> (Session Chair: Atsushi Igarashi) <ul style="list-style-type: none"> <li>• <i>Call-by-Name and Call-by-Value in Normal Modal Logic</i> Yoshihiko Kakutani (University of Tokyo)</li> <li>• <i>Call-by-Value is Dual to Call-by-Name, Extended</i> Daisuke Kimura (National Institute of Informatics, Japan)</li> </ul>
17:00 - 17:15	<b>Closing note</b>