

# SCOPES 2005 Advance Program

## Thursday, September 29

1:00 – 5:00pm Tutorial  
*Code Optimizations For Efficient Embedded Systems*  
Peter Marwedel (University of Dortmund + ICD Dortmund, Germany)

6:00 – 8:00pm Reception at Fairmont Hotel

## Friday, September 30

9:00 Real-Time  
*Language Support for Interoperable Messaging in Sensor Networks.*  
Kevin Chang (UCLA), David Gay (Intel Research, Berkeley)  
  
*Performance Guarantees by Simulation of Process Networks.*  
Marco Bekooij (Philips Research Eindhoven) Jef van Meerbergen (Philips Research Eindhoven), Sonali Parma, Eindhoven U. Technology)  
  
*A Real-Time Garbage Collection Framework for Embedded Systems.*  
Wei Fu, Carl Hauser (Washington State U.)

10:45 Panel Discussion  
*Software Engineering for Embedded Software: How Useful Are the Newer Paradigms?* Moderator: Kendra Cooper (University of Texas, Dallas)  
Panelists: Albert M. K. Cheng (University of Houston and Institute for Space Systems Operations), Hubert Bahr (University of North Texas), Farokh B. Bastani (University of Texas, Dallas)

12:15 Lunch – Keynote Speaker Roy Ju (Google Inc.)  
*A Programming System for Network Processors*

2:00 Optimization I  
*A Software-only Compression System for Trading-off Performance and Code Size.*  
Karine Heydemann, François Bodin (IRISA/INRIA Rennes, France), Charles Henri-Pierre (PRISM, Versailles, France)  
  
*Software Synthesis from the Dataflow Interchange Format.*  
Chia-Jui Hsu, Shuvra S. Bhattacharyya (U. Maryland, College Park)

*Generic Software Pipelining at the Assembly Level.*

Daniel Kaestner (AbsInt GmbH), Markus Pister (Saarland U. & AbsInt GmbH)

3 :45 Memory Systems

*The Bit-reversal SDRAM Address Mapping.*

Jun Shao, Brian T. Davis (Michigan Technological University)

*Global Memory Optimisation for Embedded Systems Allowed by Code Duplication.*

Martin Palkovic (IMEC Lab., Leuven, Belgium), Henk Corporaal (TU Eindhoven,

The Netherlands), Francky Catthoor (IMEC Lab, Leuven, Belgium)

*Combining Compiler and Operating System Support for Energy Efficient I/O on Embedded Platforms.*

Ripal Nathuji, Balasubramanian Seshasayee, Karsten Schwan (GA Inst. Tech.)

## **Saturday, October 1**

9:00 Keynote Speaker Wayne Wolf (Princeton University)

Embedded Video Computation: Challenges to Software and Hardware Designers

10:30 Optimization II

*DSP Address Optimization Using Evolutionary Algorithms.*

Sean Leventhal (U. Maryland, College Park), Lin Yuan (U. Maryland, College Park),

Neal K. Bambha (US Army Research Laboratory), Shuvra S. Bhattacharyya (U.

Maryland, College Park), Gang Qu (U. Maryland, College Park)

*MTP: A Petri Net-Based Framework for the Analysis and Transformation of SystemC Designs.*

Nick Savoiu (U. CA-Irvine)

*Power Optimization for the MLCA Using Dynamic Voltage Scaling.*

Ivan Matosevic, Tarek Abdelrahman (U. of Toronto), Faraydon Karim, Alain Mellan (STMicroelectronics)

11:45 Lunch

1:30 Birds of a Feather Sessions