

Language Tools Workshop October 5-6, 2010
Rice University, Houston, TX
Agenda
Room: Duncan Hall 1049

Tuesday, October 5

- 8:30a ----- Continental Breakfast
- 9:00a ----- Announcements
- 9:05a ----- Robert Harrison, Oak Ridge National Laboratory
"DSLs, vectors, and amnesia."
- 10:00a ----- Open Discussion Question 1 (overleaf)
Moderator: John Mellor-Crummey
- 11:00a ----- Break
- 11:15a ----- Matt Sottile, Galois Inc
"COMPOSE: Addressing Software Composition
Challenges for Emerging Systems"
- 12:15p ----- Lunch
- 1:45p ----- Open Discussion: Question 2 (overleaf)
Moderator: Boyana Norris
- 2:45p ----- Vivek Sarkar, Rice University
"Portable Programming and Execution Models as
Foundations for Tools for Future HPC Platforms"
- 3:45p ----- Break
- 4:00p ----- Open Discussion: Question 3 (overleaf)
Moderator: David Bernholdt
- 5:00p ----- Adjourn
- 6:30p ----- Dinner at the Hilton Hotel

Open Discussion Questions

1. Because HPC platforms, platform architectures and programming models are changing at an ever more rapid pace, scientists need a way to keep the science, as expressed in code, separate and independent of these low level implementation details. What is the transition path to new programming models and/or languages, and what levels of automation are possible and should be pursued? What types and how much user input will be required (e.g., semantical annotations or partial implementations such as templates)?
2. What code transformation tools are needed to support wider adoption of code transformation techniques by the scientist code developer? What compiler and language-level tools are needed by the *tool* developer to achieve this end?
3. If a majority of the scientist developer's code does not depend on the platform or programming model, is there a way of expressing the scientist's intent as separate from the target environment?

Wednesday, October 6

8:30a ----- Continental Breakfast

9:00a ----- Announcements

9:05a ----- Oscar Hernandez, Oak Ridge National Laboratory
"Compiler-based Code Transformations &
Translation Tools"

10:00 ----- Open Discussion: Topic TBD
Moderator: Rob Armstrong

11:00 ----- Break

11:15 ----- Wrap up

12:00 ----- Lunch