

# Functional Programming Concepts in Domain-Specific Languages\* (FPCDSL)



## Workshop Goals

Programming abstractions are currently being defined and developed for a variety of new application domains, including quantum computing, biologically-inspired computing, distributed systems and networking, systems and software with security and privacy guarantees, and cloud computing, among others. Well-understood characteristics and features of functional programming languages, including both abstractions and static analysis techniques, comprise a rich set of tools and conventions for constructing DSLs that provide powerful, flexible, and formally manageable abstractions that can be applied to certain application domains. This workshop seeks to bring together developers and users of DSLs who are already exploring, or are interested in exploring, which features of functional programming languages can be utilized in their application domains, as well as how the inherent properties of their application domains affect how such features can be realized in practice.



## Registration and Logistics

Sunday, 22-Sept-2013

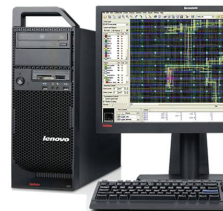
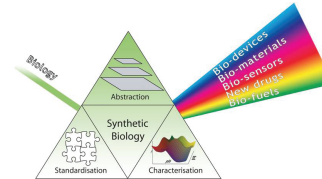
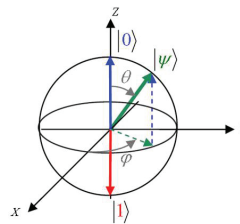
Hilton Boston Logan Airport

Register at the ICFP 2013 web site

For more information, see our web site:

<http://quantum.bbn.com/FPCDSL/>

\* FPCDSL is a ICFP 2013 Workshop



## Program

Title	Authors
Invited talk: Bluespec and Haskell	Arvind
Sensitivity Analysis using Type-Based Constraints	Loris D'Antoni, Marco Gaboardi, Emilio Jesús Gallego Arias, Andreas Haeberlen and Benjamin Pierce
Encoding Secure Information Flow with Restricted Delegation and Revocation in Haskell	Doaa Salem and Amr Sabry
Embrace, Defend, Extend: A Methodology for Embedding Preexisting DSLs. Case in Point, StreamHs : StreamIt in Haskell	Abhishek Kulkarni and Ryan Newton
Functional Synthesis of Genetic Regulatory Networks	Jacob Beal and Aaron Adler
QuaFL: A Typed DSL for Quantum Programming	Andrei Lapets, Marcus Silva, Mike Thome, Aaron Adler, Jacob Beal and Martin Roetteler
Abstract Resource Cost Derivation for Logical Quantum Circuit Descriptions	Andrei Lapets and Martin Roetteler