Parallel Functional Programming: Summing Up

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What didn’t we cover?

- GPU programming in Haskell
  - (Obsidian, Accelerate, Nikola)
- Nested data parallelism
  - (Data Parallel Haskell)
- Non-deterministic algorithms with deterministic results
  - (McCarthy’s amb, Improving Values, …)

What did we learn?

- Maturity of the tools is an issue for Haskell
  - Many libraries don't work on the Haskell platform
  - Installation can be difficult
  - Portability is so-so (especially to Windows or the Mac)
  - **BUT** efforts at Well-Typed and by Aaron Contorer should improve this
- Erlang performance and scalability is very competetive
- We need machines with 32+ cores for teaching

Where to follow developments?

- ACM conferences
  - ICFP (International Conf. on Functional Prog.)
  - Haskell Symposium
  - Erlang Workshop
  - DAMP (Declarative Aspects of Multicore Prog.)
  - CUFP (Commercial Users of Func. Prog.)
  - **New!** FHPC (Functional High Perf. Computing)
- All in the ACM Digital Library

Where to follow Erlang developments?

- Erlang User Conference (Stockholm, May)
  - Free student tickets—a few still available!
- Erlang Factory (London, San Francisco)
  - Slides and videos online
  - See http://www.erlang-factory.com/
- Good sources for tips if you want to work with Erlang

Masters' Theses

- Talk to us re Masters' thesis in our group—we try to match projects to students' interests; we are compiling a list which will be linked to from the course home page

- We can help with contacts to arrange an ex-jobb in industry using Erlang (or, possibly, Haskell)

What will be on the exam?

- **Revise these!**
  - Lecture contents, and papers referred to from the lectures
    - (including guest lectures where slides are available)
  - Lab exercises
- Mixture of problem-solving and knowledge questions
- **Goal**: if you took an active part in the course, you should pass easily

Best Repa Tutorial

Discussion

- Comments?
  - Did the course meet your expectations?
  - What was best about it?
  - What would you do to improve it?

  - What should be added?
  - What should be taken away?
  - What should be done differently?