

- ✓ What will *tomorrow's supercomputers* look like?
- ✓ How to *port* your application to *GPUs* (without porting it)?
- ✓ What should I do to use tomorrow's *supercomputers efficiently*?
- ✓ Why *thinking parallel* will make all the difference?
- ✓ Shall we think in *local* or *global* address spaces?
- ✓ Do we need *data stream* processing to cope efficiently with *many-core* CPUs?
- ✓ What to think of the new *languages* ... Fortress, Chapel, X10, UPC, Co-Array Fortran?
- ✓ Do you need to learn *VHDL* when using FPGAs?
- ✓ How to define an FPGA's *peak performance*? (and how to cheat doing so?)
- ✓ How can FPGAs running at 100MHz *outperform* CPUs running at 3GHz
- ✓ Does *C-to-Hardware* work?
- ✓ What *DEISA/PRACE/HPCS* mean?
- ✓ Can your *playstation* save the world?
- ✓ Why should supercomputers care about the *climate change*?
- ✓ Do you think *Roadrunner* is a bird and *Maxwell* is a Scottish physicist?
- ✓ How to improve your *data analysis* for better signal/background discrimination?
- ✓ How to use recent data analysis techniques (*Neural Network, Decision Tree*...

All the answers at cern.ch/csc



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► Towards Reconfigurable High-Performance Computing

- ✓ Multicore, advanced Architectures
- ✓ Multi-core at work
- ✓ Special-Purpose Accelerators
- ✓ Multicores at work: CELL Processor
- ✓ Programmable Logic
- ✓ Reconfigurable HPC: theory, tools
- ✓ Parallel Programming Paradigms
- ✓ Hybrid Programming

► Special topics

- ✓ Advanced aspects of data analysis
- ✓ Scalable Image and Video coding

Lecturers
All former CSC2006/2007 students

Iris Christadler Leibniz Supercomputing Centre

Jose Dana Perez CERN

Alfio Lazzaro University of Milan, INFN Milan

Manfred Muecke University of Vienna

Andrzej Nowak CERN

Advanced topics, rarely taught at CERN before

<http://cern.ch/csc>

* IT Amphitheatre, building 31
Free attendance but registration recommended