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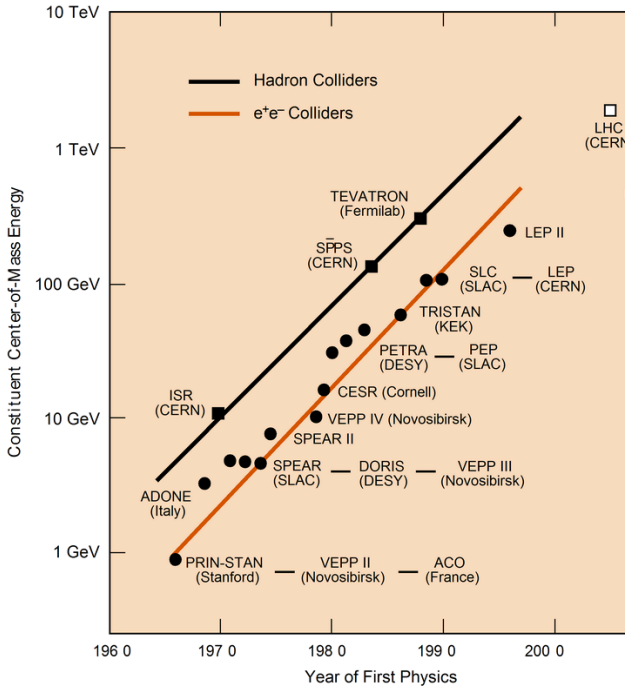
Inspiring tomorrow's professionals

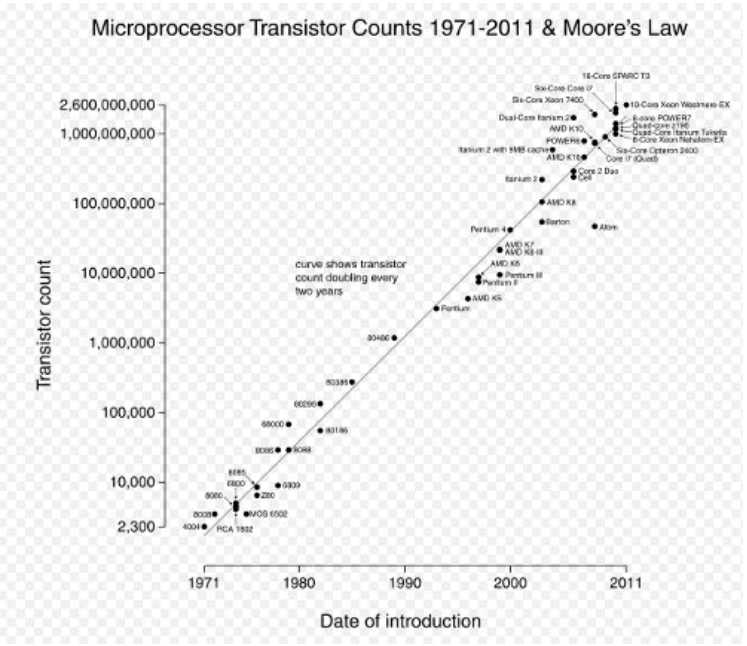
Workshop on Advanced Computing for Accelerators
Day 1

Roger Barlow

Computers get faster



Livingston Plot



Moore's Law

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So?

Most of us spend most of our time with computers

- We can do calculations more quickly
- We can do different calculations
- We can use calculations in a different way
- These can change our whole approach to the way we plan and work

Provided we are prepared to learn to use new tools, not just stick with familiar desktops .

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Different Architectures

- Many Cores Not connected (Condor)
- Many Cores linked (Beowulf)
- Many Cores On 1 chip (MIC)
- Many specially configured Cores (GPU)

Different Problems

- Independent identical particles/cells
- Independent different particles/cells
- Connected particles/cells
- Dependent steps

Need to match…

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Day 1: What we can do today

Existing packages implemented on Hartree HPC cluster

- Existing users can bring their problems
- Novices can try out the packages

Experience massive speed up

Emerge determined to use HPC in everyday work