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GPU Computing: Platform, Programming, and Pitfalls

Thursday, September 1, 2016 9:40 AM (40 minutes)

GPUs, Graphics Processing Units, offer a large amount of processing power by providing a platform for massively parallel computing. They have the ability to greatly increase the performance of scientific applications on a single workstation computer; and they also power the fastest supercomputers in the world. But leveraging the processing power is not as easy as just running a program on a GPU-enabled computer. The program needs to be ported to and carefully optimized for the GPU architecture.

This talk gives an introduction to GPU hardware architectures, programming concepts (CUDA, OpenACC), and touches on the most prevalent pitfalls of working with the technologies.

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Session Classification: Plenary Talks