

## *Abstract*

### Petaflops Computing Systems for Meteorology

Predicting the weather may always be an elusive goal but the opportunity to apply orders of magnitude greater computational performance than is available today will dramatically improve the length and accuracy of meteorological projections. Petaflops scale performance will be achieved through extensions of conventional methods, but is likely to be inefficient and impractical for most uses. Advanced concepts in computing models, parallel architecture, and programming techniques combined with continued improvements in semiconductor technology will provide a revolution in computing capability delivered to applications such as meteorology. This presentation will describe the alternative paths to Petaflops performance and highlight the revolutionary architecture concepts that will make such sustained performance widely available and easy to use.