

***Joint Electrical and Computer Engineering Department  
& Computer Science Department Seminar***

Monday, November 18, 2013, 11 a.m. to 12 noon  
Location: CS Building Room 130

**“High Performance Computing:  
What It Is All About,  
and Why We Have to Work Even Harder!”**

Prof. Dr. Wolfgang E. Nagel  
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**Abstract:**

High performance computing has changed quite significantly within the last couple of years. As it has been a key technology for experts for more than 30 years, now it has arrived as a basic technology on pretty much every desk. Nevertheless, it is still not easy to use that technology. The peak performance numbers of processors and GPUs get more and more impressive, and with petascale computing being a reality today, the focus of the computational science community is already on the next barrier – exascale computing. With systems even more powerful by orders of magnitudes, scientists start thinking about the possibilities and challenges, but also on the pitfalls on that way. The talk will address selective issues on HPC technology trends and will show what kind of challenges we have to face with respect to single node performance, scalability, power efficiency, and reliability.

**Speaker:**

Wolfgang E. Nagel received his PhD from RWTH Aachen in 1993. He is a Professor at Technische Universität Dresden (TUD) since 1997 and holds the Chair for Computer Architecture. He has published more than 130 papers covering modern programming concepts and software tools to support the development of scalable and data intensive applications, analysis of innovative computer architectures, and the development of efficient parallel algorithms and methods. Prof. Nagel is the founding director of the Center for Information Services and High Performance Computing (ZIH) at TUD, chairman of the German Gauß Allianz, and a member of the international Big Data and Extreme-scale Computing (BDEC) project.

**To meet with the speaker**, please contact Prof. H.J. Siegel at [HJ@ColoState.edu](mailto:HJ@ColoState.edu).