Joint Electrical and Computer Engineering Department & Computer Science Department Seminar

Friday, November 22, 2013, 11 a.m. to 12 noon
Location: CS Building Room 130

"Towards Simulation-Based Prediction of Performance and Energy-Efficiency of Future Parallel Computing Systems"

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Abstract:
Energy efficiency is one of the greatest challenges in information and communications technology. A large part of the energy costs can be attributed to the transfer of information. Progress in energy efficient interconnects is necessary to allow high performance computing and data centers to manage their energy costs while performing powerful applications, e.g., analytics, data modeling, forecasting. This talk gives a brief overview of the elite German Science Foundation (DFG) Collaborative Research Center (CRC) "Highly Adaptive Energy-Efficient Computing" (HAEC, http://tu-dresden.de/sfb912), which aims at developing the next generation computers that communicate and process data at high speed while at the same time adapt energy consumption according to present and anticipated distributed workloads. A novel server architecture (entitled HAEC Box) is being proposed, in which multiple processor chips on a single board are optically interconnected and multiple boards are interconnected using high-speed wireless interconnects. This talk will concentrate on modeling the energy consumption of components and on trace-driven modeling and prediction of the performance, energy consumption, and communication properties of the HAEC Box.

Speaker:
Florina M. Ciorba received her Diploma in Computer Engineering in 2001 from University of Oradea, Romania, and her doctoral degree in Computer Engineering in 2008 from National Technical University of Athens, Greece. From 2008 to 2010 she was a postdoctoral research associate at the Center for Advanced Vehicular Systems at Mississippi State University, Mississippi State, USA. Since 2010 she is a postdoctoral research associate at the Center for Information Services and High Performance Computing at Technische Universität Dresden, Dresden, Germany. More information is available at: http://wwwpub.zih.tu-dresden.de/~ciorba/.

To meet with the speaker, please contact Prof. H.J. Siegel at HJ@ColoState.edu.