

Special Issue

Performance–Power Tradeoffs in Parallel Applications

Message from the Guest Editors

Power consumption management is becoming a critical factor in the design of applications and computing systems. In current supercomputers and data centers, the energy cost is quickly going to overcome the cost of the physical system itself, and the end of Dennard Scaling and Moore's Law is further exacerbating the problem. More important, besides economic considerations, power consumption has a considerable impact on the environment since the CO₂ emissions of data centers are on par with those of entire countries or worldwide airline industries. Topics of interest include (but are not limited to) the following:

- Software-driven management of power consumption;
- High-level programming APIs for specifying energy/performance requirements;
- Large-scale power management techniques and tools;
- Architectures and Technology for high-performance energy-efficient computing.

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Energies is an international, open access journal in energy engineering and research. The journal publishes original papers, review articles, technical notes, and letters. Authors are encouraged to submit manuscripts which bridge the gaps between research, development and implementation. The journal provides a forum for information on research, innovation, and demonstration in the areas of energy conversion and conservation, the optimal use of energy resources, optimization of energy processes, mitigation of environmental pollutants, and sustainable energy systems.

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