This Special Issue on “Power-Aware Computing” presents the state-of-the-art in the area of power-aware computing systems. In the past decade, we have seen a growing number of applications with low-power or power-awareness requirements. Power awareness is not only beneficial for embedded devices for the improvement on operating duration but also helpful for server systems for the reduction of energy cost. The design and development of power-aware systems must balance performance and energy/power consumption. Meanwhile, high-power density usually also leads to high temperature of chips, which incurs expensive cooling and degrades the availability and reliability. Therefore, controlling temperature and power in computing systems has become indispensable.

The selected papers present important recent developments to tackle the above challenges. They cover energy, power and thermal management approaches in various system architectures, such as computing clusters, battery power systems, handheld devices as well as distributed real-time systems.

For this Special Issue, at least three reviewers who are experts in the area of power/energy management provided numerous comments to the authors, who pursued higher standards and were able to produce the high-quality papers in this Special Issue.

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Digital Object Identifier 10.1109/TII.2010.2052390
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