

Call for Papers

for a Special Issue of
IEEE Transactions on Device and Materials Reliability
“Thermal Management for Reliability”

This special issue will document the progress and development of new and innovative ideas for improving the reliability of microelectronic components and systems through thermal management. Increasing clock rates and transistor counts typically produce greater heat generation within digital systems in spite of continued scaling to smaller dimensions. The interplay of device performance issues and system temperatures ultimately determine the parameters for successful operation. Heat extraction efficiency and its ability to handle transients determine system operating temperature, heavily impacting system reliability. Research into innovative ideas to accomplish thermal management will be highlighted. System designers are now forced to start with thermal management as the defining precondition for overall reliability before modern systems can be successfully deployed into the marketplace.

The issue will contain invited and contributed papers covering a range of thermal management topics. The topics of interest include, but are not limited to:

- Thermal conduction materials
- Thermoelectric cooling
- Phase changing solids
- Liquid and phase changing fluids
 - Micro channel groove
 - Spray
 - Jet impingement
 - Liquid emersion
- Thermosyphons
- Manufacturing processes incorporating new materials
- Innovative packaging techniques
- Thermal modeling
- Novel ideas and concepts for heat deposition into the ambient

Final Form Submission Deadline: September 23, 2004

Please submit papers by using the website: <http://tdmr-ieee.manuscriptcentral.com>.

For any questions or help needed to upload your paper, contact:

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