Workshop at ICCS 2012

Tools for Program Development and Analysis in Computational Science

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The use of supercomputing technology, parallel and distributed processing, and sophisticated algorithms is of major importance for computational scientists. Yet, the scientists' goals are to solve their challenging scientific problems, not the software engineering tasks associated with it. For that reason, computational science and engineering must be able to rely on dedicated support from program development and analysis tools.

The 12\textsuperscript{th} workshop in this series will bring together developers of tools for scientific computing and their potential users. Paper submissions by tool developers and users from the scientific and engineering community are encouraged in order to inspire communication between both groups.

The topics of interest related to distributed and parallel computing include:

- Problem solving environments for specific application domains
- Application building and software construction tools
- Domain-specific analysis tools
- Program visualization and visual programming tools
- On-line monitoring and computational steering tools
- Tools for parallel, distributed and network-based computing
- Testing and debugging tools
- Performance analysis and tuning tools
- (Dynamic) Instrumentation and monitoring tools
- Data (re-)partitioning and load-balancing tools
- Checkpointing and restart tools
- Tools for resource management, job queuing and accounting
- Requirements for (new) tools emerging from the application domain
- Use cases and practical experiences with real-world applications

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