

**CALL FOR PAPERS**  
**WORKSHOP ORGANIC COMPUTING – STATUS AND OUTLOOK**  
**October 5 or 6, 2006, Dresden**



part of

**INFORMATIK 2006 – Informatik für Menschen!**

36th GI-Jahrestagung, October 2 – 6, 2006, TU Dresden

**Scope**

Organic Computing has emerged as a challenging vision for future information processing systems. Organic Computing is based on the insight that we will soon be surrounded by large collections of autonomous systems, which are equipped with sensors and actuators, aware of their environment, communicating freely, and organizing themselves in order to perform the actions and services that seem to be required. The presence of networks of intelligent systems in our environment opens fascinating application areas but, at the same time, bears the problem of their controllability. Hence, we have to construct such systems - which we increasingly depend on - as robust, safe, flexible, and trustworthy as possible. In particular, a strong orientation towards human needs as opposed to a pure implementation of the technologically possible seems absolutely central. In order to achieve these goals, our technical systems will have to act more independently, flexibly, and autonomously, i.e. they will have to exhibit life-like properties. We call those systems “organic”. Hence, an “Organic Computing System” is a technical system, which adapts dynamically to the current conditions of its environment. It will be self-organizing, self-configuring, self-optimizing, self-healing, self-protecting, self-explaining, and context-aware.

First steps towards adaptive and self-organizing computer systems are already being undertaken. Adaptivity, reconfigurability, emergence of new properties, and self-organization are topics in a variety of research projects. The priority research program of the German Research Foundation (DFG) addresses fundamental challenges in the design of Organic Computing systems; its objective is a deeper understanding of emergent global behavior in self-organizing systems and the design of specific concepts and tools to support the construction of Organic Computing systems for technical applications. This workshop will provide a forum to present the current status of research in Organic Computing and discuss challenges and future directions for research and development.

Suggested topics for this workshop include but are not limited to:

- self-organization and emergent behavior
- self-organization in production and logistics
- bio-inspired computing
- multi-agent systems and cellular automata
- autonomic computing
- complex adaptive systems
- self-organization in biological systems
- artificial life
- technical usage and controllability of emergence

**Paper submission**

Authors should submit papers with a maximum of 8 pages before June 26, 2006, via the “paper submission” section on <http://www.organic-computing.de/GI2006/>

Papers will be selected through a peer-review based on contribution to the overall topic, originality, and scientific value. All selected papers will be published in the workshop proceedings (and must be presented at the workshop).

**Important dates**

- Deadline for paper submissions: June 26, 2006
- Notification of acceptance: July 24, 2006
- Camera-ready versions: August 7, 2006
- Workshop: October 5 or 6, 2006

**Program committee**

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Wolfgang Karl (Universität Karlsruhe)  
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