



### European Conference on Parallel Computing

#### Topic 3: Scheduling and Load Balancing

##### Description

Scheduling and load balancing techniques are crucial issues for implementing efficient parallel and distributed applications. Such techniques can be provided either at the application level or at the system level, and both approaches are of interest for this workshop. At application level, subjects of special relevance concern both the mapping of parallel computations onto a parallel computer system as one of the most important issues in the design of efficient parallel algorithms and the development of dynamic load balancing algorithms that are able to adapt themselves to the particular characteristics of the underlying parallel and distributed systems, facilitating the development of portable applications. Support at the system level for scheduling and load balancing is also of high interest, for instance, in the context of Grids. Areas include experiences with checkpoint/migration facilities and workload estimation. Theoretical results which can be used as solid foundations for designing efficient and robust scheduling algorithms are particularly welcome together with scheduling and load-balancing algorithms for all kind of parallel and distributed systems, including clusters and Grids.

##### Focus

- Theoretical foundations of scheduling algorithms
- Adaptable load balancing algorithms
- Different types of scheduling algorithms (on-line, multi-level, ...)
- Robustness of scheduling algorithms
- Scheduling for specific platforms (Grids, clusters)
- Evaluation and analysis of load balancing and scheduling techniques
- Workload models
- Actual implementations of scheduling and load-balancing algorithms
- Tools and environments for load balancing and scheduling

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