European Conference on Parallel Computing

Topic 12: Theory and Algorithms for Parallelism in Computing

Description

Parallelism exists at all levels in computing systems from circuits to grids. Effective use of parallelism crucially relies on the availability of suitable models of computation for algorithm design and analysis, and of efficient strategies for the solution of key computational problems on prominent classes of platforms. Despite the vast body of research carried out in this area, many relevant problems remain open and new challenging ones are posed by emerging paradigms (e.g., global and mobile computing, peer-to-peer networks, etc.). High quality papers are solicited, which contribute new results on foundational issues of parallelism in computing and/or propose improved approaches for the solution of specific algorithmic problems. Topics of interest include, but are not limited to, the following:

Focus

- Foundations of parallel and distributed computing and networking
- Models of parallel and distributed computation
- Models of network growth and behavior
- Emerging paradigms of parallel and distributed computation/communication
- Deterministic, randomized or approximation parallel and distributed algorithms
- Lower bounds for key computational problems
- Theoretical aspects of routing and information dissemination
- Communication complexity

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