Call for papers:

19th Euromicro International Conference on Parallel, Distributed and Network-based Processing (PDP 2011)
9-11 February 2011,
Ayia Napa, Cyprus

Special Session on
Grid and High Performance Computing for Nuclear Fusion Applications

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Call for Papers
The development of nuclear fusion devices e.g. in the international ITER experiment, has reached a state in which the feasibility to generate electrical power has to be demonstrated. In the design of such devices theoretical modelling and computer simulation are crucial steps. Especially the design and construction of ITER requires intensive simulations of plasma physics, the different components and their interaction.

With growing size and complexity of future devices modelling and simulation often exceed the computational capabilities of local infrastructures. Parallel and distributed technologies such as Grid, High Performance and Cloud computing represent emerging solutions and promise researchers new scalable computational platforms. Current activities concentrate on utilizing new computing paradigms and infrastructures for the fusion community.

We invite you to contribute to this special session by submitting proposals in one or more of the categories outlined below. Topics of interest for fusion applications include, but are not limited to:

- Grid, HPC and Cloud architectures optimized for fusion applications
- System infrastructure
- Parallel algorithms, parallel and large scale applications
- Comparison of algorithms
- Code optimization
- Modelling
- User interfaces
- Visualization of large data sets
- Data mining
- Interactive access
- Workflow orchestration

The aim of this special session is to present the latest efforts in parallel and distributed nuclear fusion applications and to bring together fusion and computer scientists.

Supporting project: EUFORIA
EUFORIA (EU Fusion FOR Iter Applications) is a project funded by the European Union (FP7) which will provide a comprehensive framework and infrastructure for core and edge transport and turbulence simulation, linking Grid and High Performance Computing (HPC), to the fusion modelling community.

Paper Submission
Authors should submit a full paper not exceeding 5000 words in length and including a 150-200 word abstract. To facilitate an anonymous reviewing process, the first page of the paper should contain only the title and abstract. Proceedings will be published by IEEE Computer Society.

Papers submitted for the workshops or special sessions must be submitted through the conference submission system [http://www.easychair.org](http://www.easychair.org) with an indication of the name of the special session. Papers must adhere to the formatting rules of the conference and will undergo the same blind review process as other papers submitted to the conference. Authors of accepted papers are expected to register and present the paper at the Workshop.

Important dates
Papers due: July 16th, 2010
Acceptance notification: October 4th, 2010
Camera-ready versions: October 29th, 2009