

Call for proposals to provide staff for the high level support team (HLST) to the HPC-FF

Deadline for answers 5th September 2009

The installation of the High Performance Computer dedicated for Fusion Applications (HPC-FF) is coming to an end and the HPC-FF will start operation beginning of July 2009.

As a successful operation of the HPC-FF relies not only on hardware performance, but also on an appropriate support in further developing and optimizing the codes for massively parallel platforms, it had been agreed that a **High Level Support Team (HLST)** has to be established to provide support to scientists from all Associations for the development and optimisation of codes. This team consist of a **Core Team based at IPP Garching** (5ppy) and **support staff in associations** (4 ppy) provided by Associates other than IPP and FZJ.

In particular, the HLST will provide support for the following tasks:

- Parallelise and optimise codes, including single node optimisation, Open MP and MPI parallelisation, for massively parallel computers;
- Improve the performance of existing codes already design for parallel platforms;
- Initiate the transfer of other codes to multiprocessors platforms;
- Include Check-point/Restart functionality in the most CPU time consuming codes;
- Make existing codes into community tools and merge codes if needed;
- Choose algorithms, mathematical library routine to adapt applications to the computer architectures and to specific geometries;
- Train young scientist to the use of HPC systems and towards upcoming new computer architectures;
- Provide consultancy to existing HPC specialists in the Associations;
- Choose best suited machines for future generations of HPC systems for Fusion applications;
- Exploit the efforts of the ITM Task Force and progress achieved under the EUFORIA Project, specially in the fields of standards, graphical users interfaces, common data bases and parallel visualisation, for the benefit of the HPC-FF users;

In this Call we invite you to propose individuals from your association to perform work as a member of the HLST (**support staff in associations** - remaining ceiling 2.5 ppy). Desirable qualifications for the candidate should be among others:

- Educated to degree level in computer science, physics or mathematics
- Experience in code development on massively parallel computers with MPI (Message Passing Interface) for distributed memory architectures and/or OpenMP for shared memory architectures

- Experience in relevant algorithm developments
- Knowledge in plasma physics and/or in materials modelling

The proposal should detail the scientific skills/experience of the candidate and define the period when the candidate will be available to act as a member of HLST (**that period should not be less than 1 year**) as indicated in the attached template (*Response sheet for HLST_2.doc*).

I would be grateful if you could identify suitable candidates in your Association/Laboratory to apply for positions in the HLST and to send your proposals to the HPC Board Secretary Roman Zagórski (Roman.Zagorski@efda.org) with copy to the HPC Board Chairperson Sibylle Günter (Sibylle.Guenter@ipp.mpg.de) and to the CSU Secretariat (Anne.Graebner@efda.org) as soon as possible but no later than **5th September 2009**.

As outlined in the HPC Implementing Agreement (EFDA (08) 39/4.1), there will be community contribution of 50% of the total costs, based on an equivalent of up to 130 K€ per person/year including overheads (as defined in EFDA (08)-36/4.3).