

Call for proposals to provide support within the High Level Support Team

Deadline for responses: 5th February 2015

The High Level Support Team (HLST) working within the Infrastructure Support Activities (ISA) Project provides support to users who perform massively parallel computational work for the European fusion physics programme. The 7th General Assembly (November 13-14 2014, ENEA, Padova, Italy) approved publishing a Call for two full time experts or four experts at 50% of their time (or a combination adding up to two full time experts), to join the HLST and work on the HLST projects in the Research Units. These experts will be working under the supervision of the HLST leader on the projects proposed by different Research Units following the EUROfusion Calls for projects and accepted by the selection panel.

The HLST provides support for the following tasks:

- Parallelise codes using e.g. Open MP and/or MPI standards for massively parallel computers;
- Improve the performance of existing parallel codes both at the single node and inter node levels;
- Support the transfer of codes to new multiprocessor architectures;
- Choose and if necessary adapt algorithms and/or mathematical library routines to improve applications for the targeted computer architectures;
- Give feedback to the community based on experience gained from specific project work;
- Provide guidance for young scientists on available training activities in HPC and towards upcoming new computer architectures;
- Provide consultancy to scientists within the Associates working on HPC;
- Exploit developments made by the Work Package on Code Development (WPCD), especially in the field of standards, graphical user interfaces, common data bases and parallel visualization, for the benefit of the IFERC-CSC users.

In this Call we invite you to propose experts from your Research Unit to work as members of the HLST (support staff in Research Unit) with a minimum commitment of 6 months per year during at least two years. A possibility of prolongation of this work for up to four years should be considered by candidates. Desirable qualifications for the candidate should include:

- 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, contain his/her CV and up to ten of their most recent publications as indicated in the attached template (*Response_template_for_HLST.doc*). Successful candidates will be selected in February 2015 by a selection panel. Please note that this type of position is in principle not suitable for PhD students.

In 2015 the selected HLST staff members will be in charge of the following projects provisionally accepted for HLST support:

- Continuous Integration tool for Parallel Applications on Helios supercomputer (CIPAH) by *G. Latu* (CEA-Cadarache, France)
- Moving the GBS code towards clusters based on a hybrid architecture (GBSHYB) by *P. Ricci* (CRPP-EPFL, Switzerland)
- Speeding up KInetic code for Plasma Periphery KIPP (KIPPADV) by *A. Chankin* (IPP-Garching, Germany)
- Sequential and parallel profiling of the TOKAM3X 3D edge fluid turbulence code (TOKAPROF) by *P. Tamain* (CEA-Cadarache/Aix-Marseille University, France)

The detailed description of these projects is attached to the Call (Annex 1).

As agreed at the HRUs meeting on 7-8 October 2013, the action is funded 100% with a ceiling of 65k€pppy.

A response template is included in Annex 2.

Proposals should be sent via e-mail to Irina Voitsekhovitch (Irina.Voitsekhovitch@euro-fusion.org) with copy to jennie.humphreys@euro-fusion.org through the GA Member no later than **5th February 2015**.