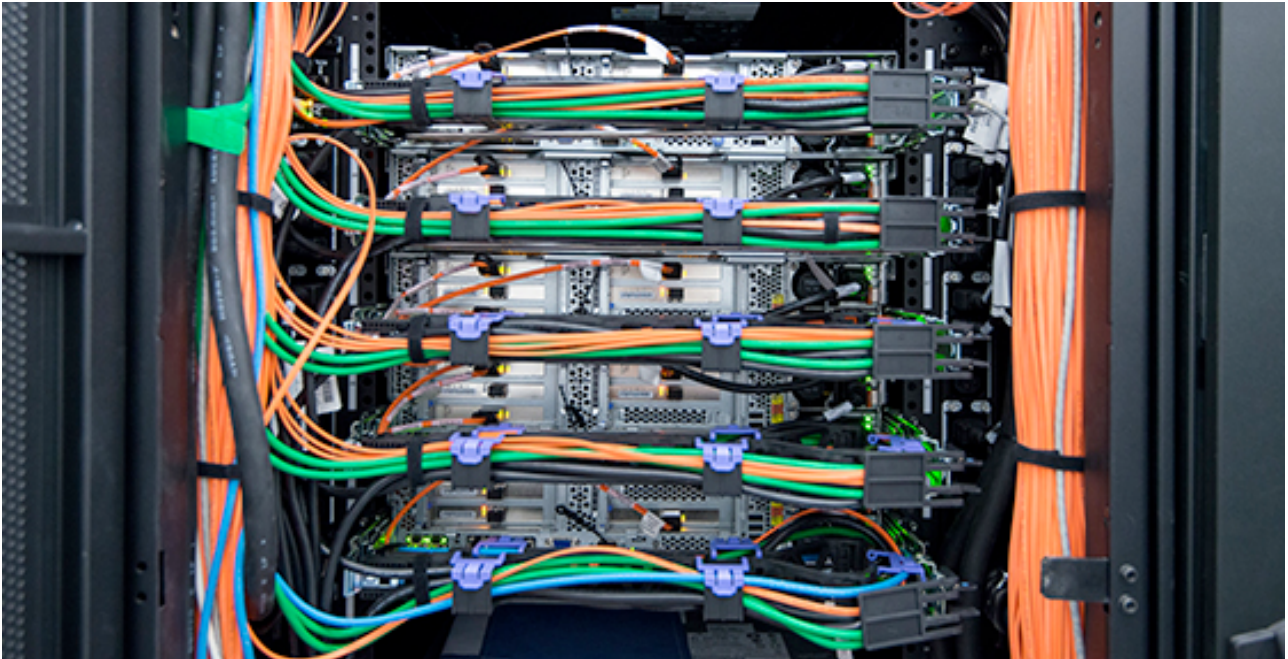




A new grant for supercomputing



SISSA increasingly betting on High Performance Computing

March 12, 2015

SISSA has received European Community funding equivalent to 18 million hours of supercomputing, corresponding to almost half the hours that the SISSA supercomputer, inaugurated last September, can provide in a whole year. The grant was awarded thanks to a research project in particle physics. SISSA is placing high stakes on high performance computing, as also confirmed by the second edition of the Master in High Performance Computing (MHPC) which has just opened enrolments.

Not money, but “computing hours”. That’s the peculiarity of the awards granted by **PRACE** (acronym for Partnership for Advanced Computing in Europe), which has granted SISSA, the International School for Advanced Studies of Trieste, **an additional 18 million supercomputing hours** to be used at one of the affiliated European centres (CINECA) over 1 year. In fact, when doing research it is often necessary to use computers in an intense, highly performing activity: High Performance Computing (HPC). Hours that are clearly very expensive.

The award was obtained thanks to a project investigating the electromagnetic corrections to the



weak decay of hadrons (subatomic particles made up of quarks) developed and written by SISSA's current Director Guido Martinelli, in collaboration with other particle physicists. The mission of PRACE is to support European competitiveness with regard to HPC use while improving the environmental impact and energetic efficiency of computer systems.

Supercomputing is an area in which the School is investing greatly: last September saw the inauguration of "Ulysses", one of the most powerful supercomputers in Italy developed by SISSA within an agreement with ICTP and capable of providing all users with 34 million computing hours per year (corresponding to about double the number of additional hours allocated to the single PRACE project for use on other infrastructures).

In the meantime, SISSA is receiving plenty of applications for the second edition of the **Master in High Performance Computing (MHPC)**, an international master's programme started last year in collaboration with ICTP whose first edition met with extraordinary success. "Although enrolments only opened on March 9th (and there is time until May 15th), we have been receiving an average of 10 emails a day asking to take part in the selections", says Stefano Cozzini, coordinator of the master. "The success is mostly accounted for by the uniqueness of this programme. In fact, all courses have been given a very practical, hands-on approach, with students spending entire days trying out the HPC systems. The faculty, some of whom from leading companies like INTEL and NVIDIA, are all of very high standing and all able to provide an exhaustive overview of the most up-to-date technological architectures".

For the 2014-2015 edition, which will end next December, all students have been supported by scholarships funded by private sponsors and research institutions. In practice all of them have already been head-hunted by the world of work. It is also practically certain that even for the coming edition (2015-2016) the course fees of the best students on the course will be paid by companies or scientific centres, which by doing so are basically "booking" supercomputing experts that they would have trouble finding elsewhere.

USEFUL LINKS:

- MHPC: <http://www.mhpc.it>
- PRACE: <http://www.prace-ri.eu/>

IMAGE:

- **Detail of Ulysses** (*credits: SISSA Medialab*)
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