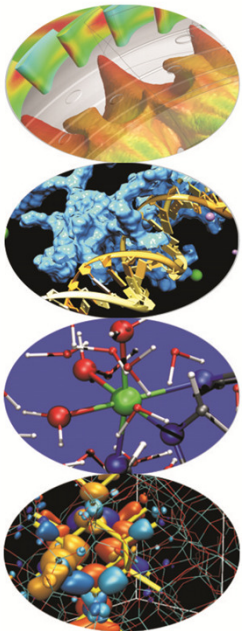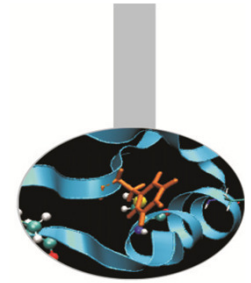Politecnico di Milano

PhD School Courses

PARALLEL COMPUTING USING MPI AND

OPENMP
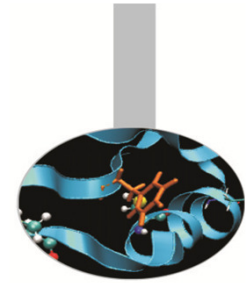
Calendar

Days	Date	Part 1 (9:30-11:30)	Part 2 (11:30-13:30)	Teacher
1	27/05/2014	Parallel Architectures	Mpi introduction	P.Ramieri
2	28/05/2014	Mpi introduction	Exercises	P.Ramieri
3	29/05/2014	Open MP	Exercises	P.Dagna
4	30/05/2014	Advanced MPI	Exercises	M.Cremonesi
5	03/06/2014	Parallel scientific SW libraries	Exercises	M.Cremonesi
6	04/06/2014	Winning strategies	Exercises	P.Dagna
7	05/06/2014	Winning strategies	Exercises	P.Dagna

Training material:

https://hpc-forge.cineca.it/files/CoursesDev/public/2014/Cross_Sectoral_Course_PhD/
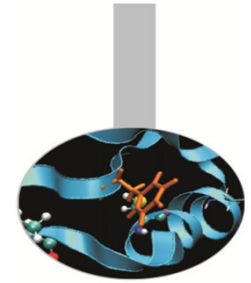
Final application

The course attendant will develop a **final application** on selected themes. This project should be completed in about one month (the estimated workload is about 20 hours per man).
It is possible to work alone or preferably in a group of **two** people maximum.

The project will be discussed and evaluated to assign the **final grade**.

A **predefined project** will be provided, but personalised projects may be taken into consideration if discussed in advance within the end of the lessons.

Please send an email to m.cremonesi@cineca.it for communicating your preference about the final application.

Final application

The final application will consist in the parallel optimisation of a documented program.

In order of being able to discuss the exam properly, course attendants should provide a PDF presentation describing:
- The original (not optimised) version of the application program
- The efforts carried out for optimising the code
- Benchmarks showing the benefits of optimisation
- Graphs about speed-up and efficiency of the optimised code
- Differences between numerical results of original and optimised program

Access to CINECA clusters for developing the final application is welcome: please send email to m.cremonesi@cineca.it   for communicating your interest in it.