CENTERS

Simulation Center

The Simulation Centre (CDS) consists of 7 people and is organised into 2 divisions: Administration & Networks Division and Development Division.

Main activities

The main mission of the LMPS Simulation Centre is to provide LMPS members with a sufficiently powerful, reliable and secure hardware, software and service environment to enable them to work in optimal comfort and efficiency.
It offers an environment based on "Linux" platforms for the use of industrial software and the production of scientific software integrating the latest advances in research in the fields of materials and structures, as well as new multiscale, multiphysics and parallel calculation strategies. It also ensures the operation of the various servers essential to the various activities.
The Simulation Centre's mission is also to help the laboratory's users with their computer developments. In particular, the developments concern the interfacing between codes and experimental devices (camera, test machine control) or the use of free calculation libraries. In addition, the Simulation Centre promotes good development practices in software engineering.

The physical location of the Simulation Centre, in three shared spaces, allows for an important synergy between the laboratory's doctoral students. Belonging to different research teams, this shared common space allows for a very rich sharing and transmission of knowledge and experience between PhD students; from one generation to another, from one application domain to another.

Means

User computing

- Approximately 200 user accounts, associated laptops (PC, MAC)

Means of calculation

- Access to the CentraleSupélec Mesocentre of calculation (http://mesocentre.centralesupelec.fr/), ENS Paris-Saclay and Université Paris-Saclay computing mesocentre
  45 workstations

Network service

- 2 home servers also hosting gitlab, dokuwiki, intranet, apache, mysql, mrbs
- 2 servers hosting ssh, openvpn, nextcloud, software licences, grr
- 2 storage servers of 100 TB

Software

- Development of dedicated scientific computing software in Python, Matlab, C/C++, Fortran, Mathematica : Cristal ECP, Correli, DEAP, GEFdyn, MISS, MULTIFIL, OOFE, ROMLAB, ScoFiEIDD, Vision
- Industrial software: Abaqus, Aster, CAST3M, LS-DYNA, Samcef, SEM3D, Z-Set
- Continuous integration and deployment tools: Git, Github, Gitlab, Jenkins
- Office automation

Manager

CENTRE DE SIMULATION, EQUIPE MILA

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