

# MAISON DE LA SIMULATION





# Maison de la Simulation

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- ❑ Joint laboratory CEA-CNRS-Inria-UPS-UVSQ
- ❑ Research and Service Unit, CNRS USR 3441
- ❑ Location: Digitéo Saclay building and IDRIS
- ❑ Animation of national network

**Accompany, support and stimulate scientific communities in order to maximize the scientific production of supercomputers**

- HPC oriented multi-disciplinary research lab
  - Service unit offering expertise and support to the HPC users community, especially for high-end software development.
  - Center for education and scientific animation around HPC
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# Research laboratory

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**Multidisciplinary center of excellence for high end simulations**

**Create, within the same lab, multi-disciplinary teams  
able to tackle the grand challenges of HPC**

**Permanent researchers:** transversal themes (applied math, comp. sci.), and domains where HPC is a major issue

**Researchers on short to medium term projects**

**Engineers:** design, implement and distribute numerical tools

**Contribute to the development and exploitation of novel numerical codes  
used on national (Genci) and European (Prace) machines**

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# Prace



- **Partnership for Research In Advanced Computing in Europe** : pan-European infrastructure in charge of High-Performance Computing resources and services for public research
- **25 partner countries, 7 Tier-0 machines (Prace 2):**



<b>Curie (Irene)</b>	Bull Bullx cluster	GENCI@CEA (FR)	93
<b>Hazel Hen</b>	Cray XC40 System	GCS@HLRS (DE)	19
<b>Juqueen</b>	IBM BlueGene/Q system	GCS@JSC (DE)	22
<b>Marconi</b>	Lenovo System	CINECA (IT)	14
<b>MareNostrum</b>	IBM System X iDataplex	BSC (ES)	16
<b>Piz Daint</b>	Cray XC30 System	CSCS (CH)	3
<b>SuperMUC</b>	IBM System X iDataplex/ Lenovo NextScale	GCS@LRZ (DE)	44





# Prace training: PTC

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**PRACE Training Centres** (PTCs) carry out and coordinate training and education activities that enable the European research community to utilize the computational infrastructure available through PRACE.

Provide top-class education and training for computational scientists in Europe

6 centers:

- **Barcelona Supercomputing Center** (Spain),
- **CINECA** - Consorzio Interuniversitario (Italy),
- **CSC** - IT Center for Science Ltd (Finland),
- **EPCC** at the University of Edinburgh (UK),
- **Gauss Centre for Supercomputing** (Germany)
- **GRNET** (Greece)
- **ICHEC** (Ireland)
- **IT4Innovation**, VSB (Czech Republic)
- **Maison de la Simulation** (France)
- **Surf Sara** (Netherlands)



# Course program 2017-2018

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Title	Organization	Date
Mastering GPU-Acceleration on OpenPOWER Platform	Idris	24-26 Oct 2017
Debugging & optimization	Cines	4 – 8 Dec. 2017
Parallel IO & libraries with IT4Innovation (CZ), JSC (DE), Cines (FR)	VSB, Ostrava, Czech Rep.	22 - 23 March 2018
Parallel filesystems and parallel IO libraries	MdIS	April 23-24 2018
Uncertainty quantification	MdIS	16-18 May 2018
Performance portability for GPU application using high-level programming approaches	MdIS	31 May – June 1 2018
Runtime systems	MdIS	4-5 June 2018
Introduction to PETSc	Idris	25-26 June 2018
Advanced Usage on Irene	TGCC	3-4 July 2018

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