inventors for the digital world

PlaFRIM

Plateforme **F**édérative de **R**echerche en **I**nformatique et en **M**athématiques

Sommaire

01

Context

Context

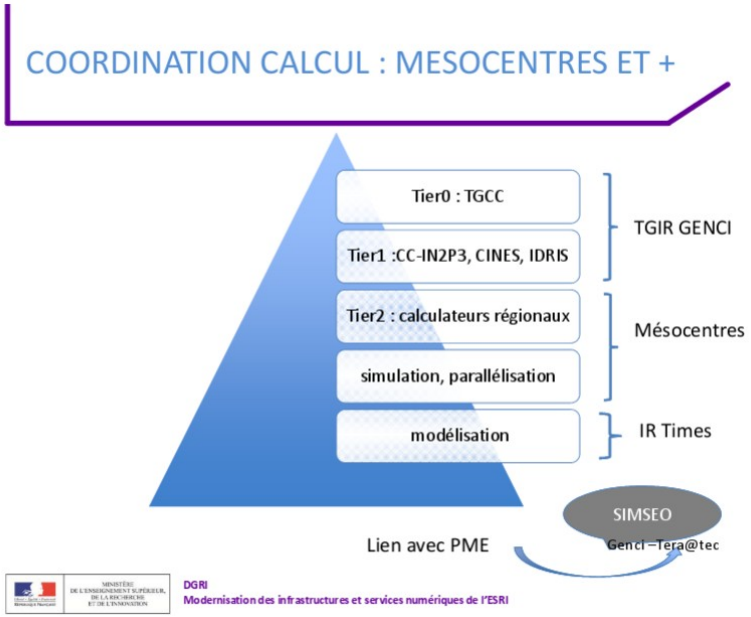
PlaFRIM is a **scientific instrument** designed to support experiment-driven research in all areas of applied mathematics related to modeling and high performance computing.

People eligible to use the Platform are:

- **academic researchers**, including from Inria and its partners.
- **SME enterprises**. In this case, a agreement has to be signed before using the cluster.
- **students** during their school year (typically hands on training sessions). The **teacher** must contact the PlaFRIM team.

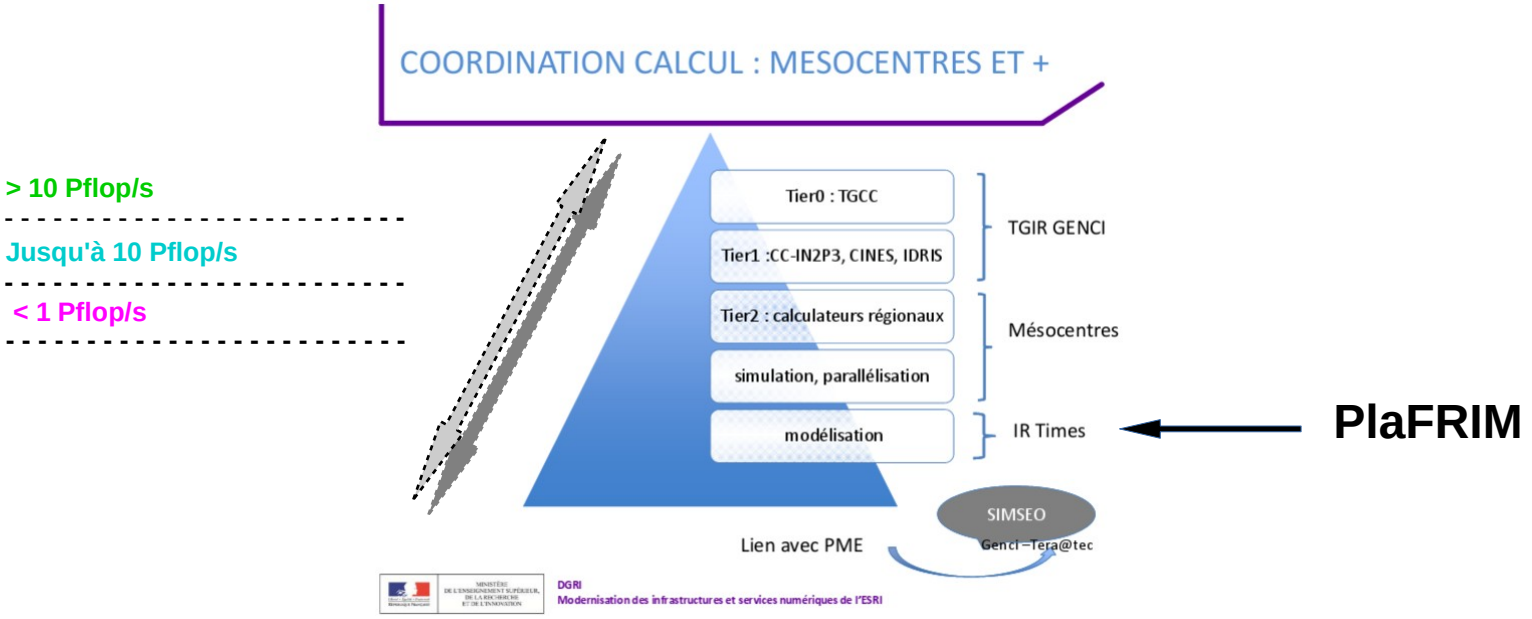
Context

PlaFRIM is an **experimental testbed**, being developed under the Inria PlaFRIM development action with support from Bordeaux INP, LaBRI, IMB and other entities : Conseil Regional d'Aquitaine, Universite de Bordeaux, CNRS and ANR in accordance to Programme d'Investissement d'Avenir.



Context

PlaFRIM is an **experimental testbed**, being developed under the Inria PlaFRIM development action with support from Bordeaux INP, LaBRI, IMB and other entities : Conseil Regional d'Aquitaine, Universite de Bordeaux, CNRS and ANR in accordance to Programme d'Investissement d'Avenir.

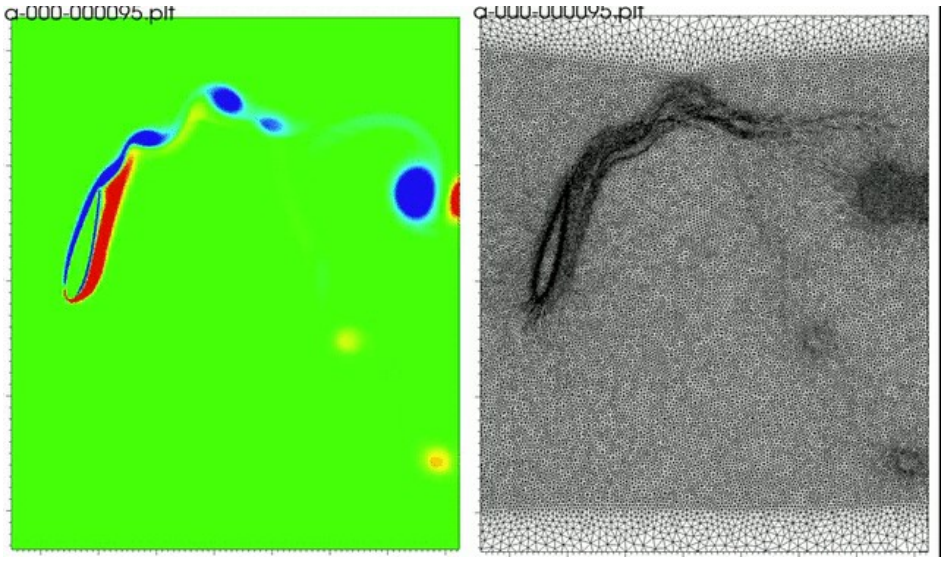


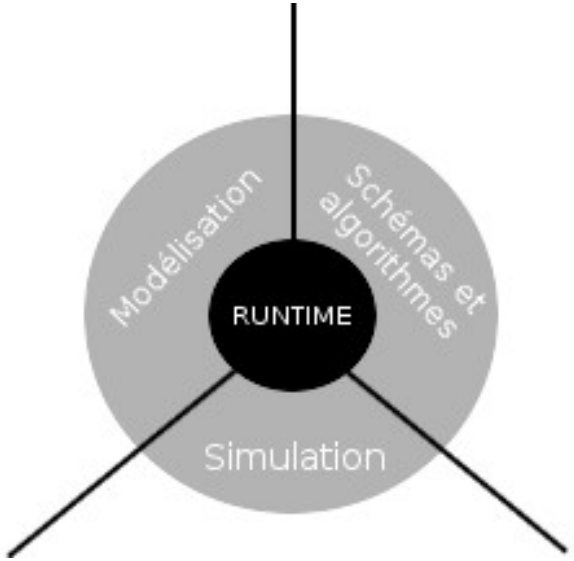
02

Objectives

Objectives

PlaFRIM is a **scientific instrument** designed to support experiment-driven research in all areas of applied mathematics related to modeling and high performance computing.





03

Team

Team

Olivier Coulaud	**Scientific Manager**
Julien Lelaurain	**Platform Administrator**
Nathalie Furmento	**User Commitee Manager**
Francois Rue	**Technical Manager**

Team

Olivier Coulaud	**Scientific Manager**
Julien Lelaurain	**Platform Administrator**
Nathalie Furmento	**User Commitee Manager**
Francois Rue	**Technical Manager**

1.6 ETP Inria
0.2 ETP LaBRI

Team

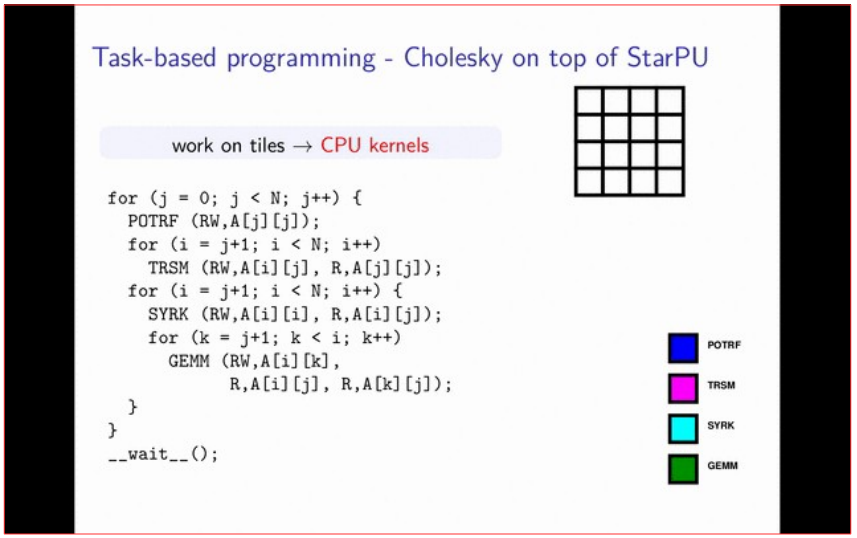
Olivier Coulaud	**Scientific Manager**
Julien Lelaurain	**Platform Administrator**
Nathalie Furmento	**User Commitee Manager**
Francois Rue	**Technical Manager**

1.6 ETP Inria
0.2 ETP LaBRI

04

Research axes

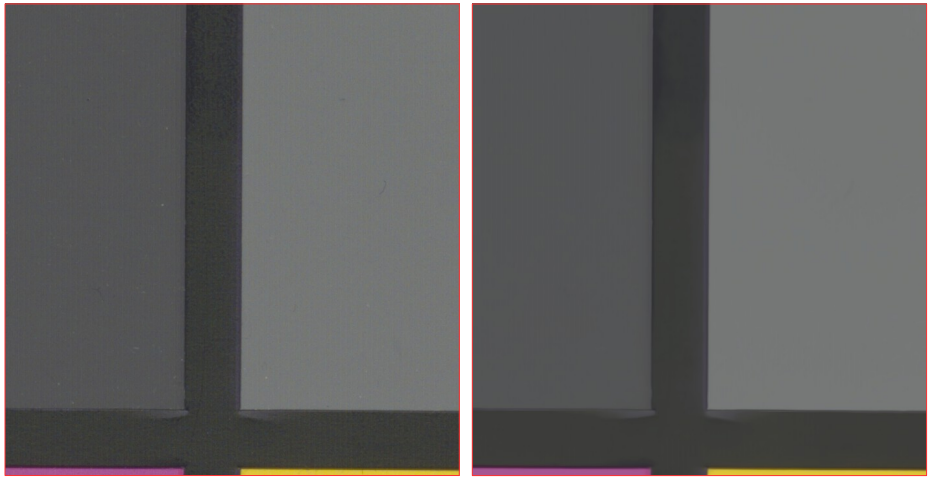
Research axes



PlaFRIM research axes are

- Modélisation, calcul intensif et architectures parallèles

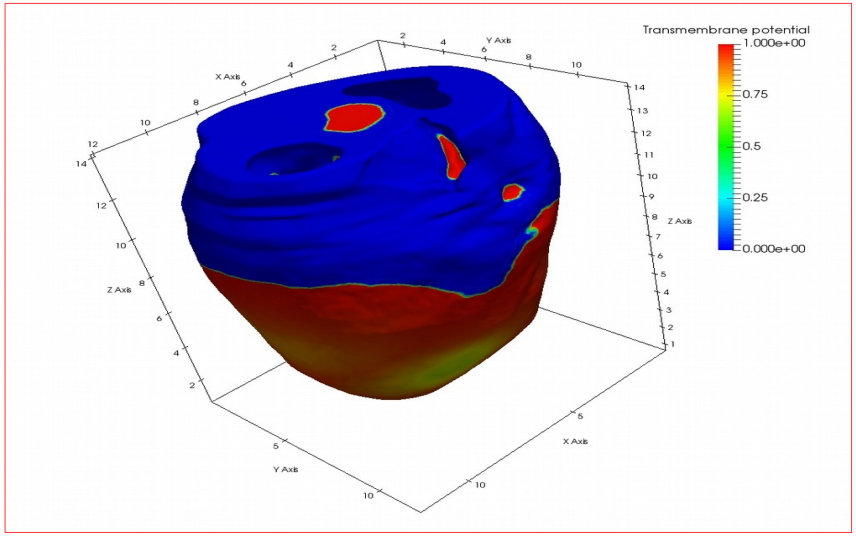
Research axes



PlaFRIM research axes are

- Modélisation, calcul intensif et architectures parallèles
- Gestion des incertitudes et optimisation

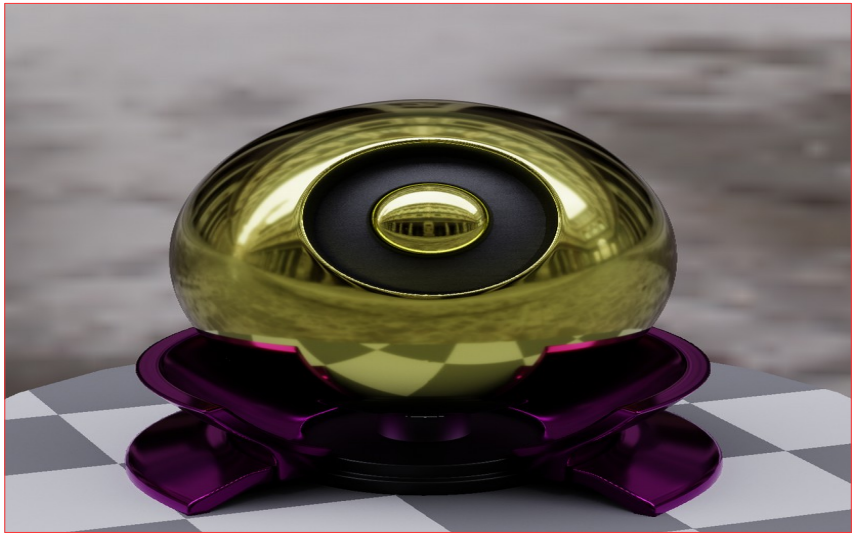
Research axes



PlaFRIM research axes are

- Modélisation, calcul intensif et architectures parallèles
- Gestion des incertitudes et optimisation
- Modélisation pour la santé et la biologie

Research axes



PlaFRIM research axes are

- Modélisation, calcul intensif et architectures parallèles
- Gestion des incertitudes et optimisation
- Modélisation pour la santé et la biologie
- Humain et numérique : interaction et visualisation

Research axes

PlaFRIM research axes are

- Modélisation, calcul intensif et architectures parallèles
- Gestion des incertitudes et optimisation
- Modélisation pour la santé et la biologie
- Humain et numérique : interaction et visualisation
- Learning and Deep Neural Networks

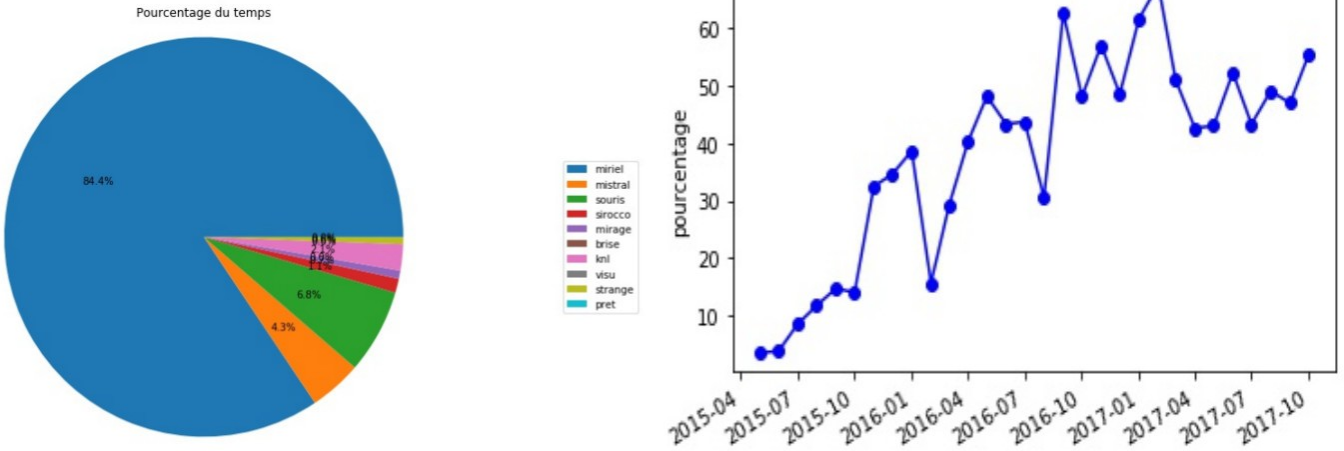
05

Research axes

Usage

PlaFRIM usage are :

- More than 50 publications /year from 6 years
- Utilization rate : 60 %
- ~ 300 active accounts
- ~ 50 teams



06

Collaborations

Collaborations

Tables rondes sur les matériels expérimentaux

Table ronde Intel KNL – 2017

- Xeon Phi Architecture Overview and roadmap - *Asma Farjallah*, HPC Application Engineer (Intel) & *Alexandre Chauvin* , HPC Account Executive (Intel)
- Evaluation and Usability of the Cache Aware Roofline Model on PlaFRIM Knight Landings - *Nicolas Denoyelle* (TADaaM)
- Evaluating the impact of Intel KNL memory settings on performance through case studies - *Ian Masliah* (HiePACS)
- Exploiting multi-level parallelism on Intel KNL - *Terry Cojean* (STORM))

Dell Experimental Cluster (Austin) with v100 Nvidia cards

Hackathon 2018 : Genci, Inria

Collaborations

2019

Intel Workshop : juin 2019

Nvidia : Round Table Q1 2019

Tutorial (Intel Tools) : Profiling & Optimisation (Vtune, Advisor Q1 2019)

Merci !

Suivez-nous sur www.plafrim.fr

#plafrim

inventeurs du monde numérique