

## INSMI

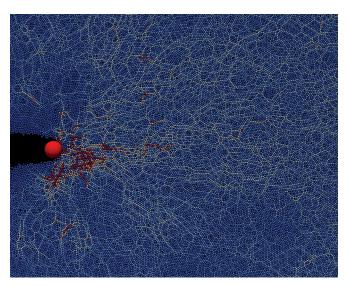
# NATIONAL INSTITUTE FOR MATHEMATICAL SCIENCES AND THEIR INTERACTIONS

### **Developing and understanding mathematical structures and models**

The mission of the National Institute for Mathematical Sciences and their Interactions (INSMI) is to promote excellence in mathematics in France by leading and coordinating a network of research units, structures of national interest and international laboratories.

#### **MISSIONS**

INSMI's mission is to develop and coordinate research in the various branches of mathematics, from fundamental aspects to applications. INSMI contributes to the structuring of the French mathematical community and to its integration in the international community. While supporting the development of mathematics, INSMI promotes the interaction of mathematics with other disciplines, with the business world and with society in order to meet the growing demand for modeling, quantitative analysis and simulation. It also participates in the coordination and promotion of training through research and research in mathematics and supports actions for the dissemination of knowledge and actions for the communication and promotion of mathematics, particularly among young people and the general public.



Simulation of a sphere pulled at constant speed in a layer of spherical grains.

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#### **STRATEGIC AXES**

To carry out its missions, INSMI intends to:

- ensure a regular flow of young researchers, a significant proportion of whom will be recruited in research areas with interactions;
- promote the mobility of researchers: thematic, geographic (national and international) and inter-institutional mobility;
- develop cross-disciplinary research structures;
- intensify international relations both by developing international units and laboratories and by developing international conference and hosting centers;
- participate in the establishment of multidisciplinary programs and cross-assignments of researchers;
- developing relations with the economic world and with society.

#### **INSTRUMENTS**

The French mathematical community is equipped with national instruments that INSMI pilots or co-pilots:

- international research centers: the Institut Henri Poincaré in Paris and the Centre international de rencontres mathématiques in Marseille Luminy;
- documentary tools: the Jacques Hadamard mathematical library, the national network of mathematical libraries and the MathDoc cell, which structure mathematical documentation at the national level; the Mersenne center, a public infrastructure for open access scientific publishing;
- networks of digital skills: the Mathrice network, which brings together computer scientists from mathematics laboratories, and the Calcul research group, which facilitates exchanges between experts in scientific computing;
- the Agency for mathematics in interaction with business and society (AMIES), which aims to facilitate relations between mathematical research and the economic world;
- the AuDiMath network, which brings together people involved in actions to disseminate mathematics.

#### INTERNATIONAL OUTREACH

International exchanges are vital to ensure the excellence of French teams. They also testify to its excellence. In addition to the many spontaneous collaborations and to bilateral collaboration agreements, INSMI pilots specific CNRS tools that help structure exchanges between teams.

#### **KEY FIGURES**

3400

Researchers & academics, of which **350** 

employed by the CNRS

**1500** 

Doctoral and 200

Post-doctoral students

31

Research groups and thematic

and **12** Federative structures

400

Engineers & technicians of which **200** 

employed by the CNRS

**50** 

Research and support unit

25

International structures

National Institute for Mathematical Sciences and their Interactions

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