

Eco-Responsible Charter of the PMMH laboratory

(Voted by the laboratory and adopted by the laboratory council on March 5th 2025)

Preamble

In light of the climate emergency confirmed by successive IPCC reports¹, the Laboratory of Physics and Mechanics of Heterogeneous Media (PMMH) commits to reducing its carbon footprint by integrating eco-responsible practices into its research, training, and administrative activities. Aware of our role in producing and disseminating knowledge, we want to take responsibility and do our part to protect the environment. Through this charter, we define concrete actions to reduce our CO2 emissions and to raise awareness within our scientific community about environmental issues.

1. Awareness and Training on Climate Issues

PMMH commits to integrating environmental considerations into the life of the laboratory through awareness and training actions:

- Measure its CO2 emissions every two years. This evaluation will guide discussions of our practices and the revision of this charter.
- Regularly invite individuals from the GDR 1.5² or climate change experts to give seminars.
- Organize informal meetings to present and discuss scientific papers or reports related to the environmental impact of research.
- Encourage laboratory members to consider the ecological impact of each project or organization they are responsible for (ANR, ERC, CNRS, conferences) and to favor low-carbon events by selecting appropriate venues and promoting travel using environmentally-friendly transportation.
- Support career evaluation criteria where the importance of distant international conferences is reduced in favor of the overall scientific impact.

2. Mobility and Travel

Travel constitutes a significant portion of PMMH's greenhouse gas emissions. We commit to:

- Limiting air travel: prioritize trains for less than six-hour trips and avoid flights for stays shorter than one day.
- Encouraging videoconferencing for short meetings (thesis juries, HDR) for participants who would need to fly.
- Asking governing bodies (ESPCI, universities, CNRS) to facilitate train ticket bookings across Europe, including night and first-class trains, and to allow carpooling for professional trips.

3. Equipment and Resource Management

Managing IT and experimental equipment is another lever to reduce our carbon footprint. PMMH will adopt the following measures:

- Extend the lifespan of computers, monitors, and other equipment by prioritizing repairs before new purchases.
- Regularly (about once a year) organize maintenance, repair, and cleaning days for computers, hard drives, and email accounts.
- Create a shared storage space for unused equipment, facilitating the sharing of resources and inventory of available equipment (computers, monitors, etc.).
- Favor purchasing second-hand equipment from the CNRS Material Exchange, and consider renting options before purchasing new equipment.
- Allocate part of the budget to extended warranties when purchasing new equipment to prolong its use.

1 <https://www.ipcc.ch/>

2 <https://labos1point5.org/le-gdr>

4. Reducing Emissions from Scientific Computing

PMMH acknowledges the environmental impact of scientific computing and commits to:

- Prioritize national computing centers.
- Shutting down computing clusters when they are not in use to limit energy consumption.
- Raising awareness among users about eco-responsible management of computing and storage resources.

5. Consumption and Events

To reduce the environmental impact of events organized by the laboratory, we will implement the following practices:

- Systematically offer a vegetarian option during buffets and avoid single-use cutlery.
- Encourage the use of caterers offering reusable dishware and sustainable food options.

6. Requests to Governing Bodies (ESPCI, universities, CNRS)

To fully implement these commitments, PMMH calls on its governing bodies to:

- Improve the energy performance of the premises by their commitments.
- Integrate sustainability criteria into public equipment procurement and ask suppliers to estimate CO2 emissions related to the production of materials.
- Implement mission management tools that track CO2 emissions from travel and promote public transportation with moderate carbon footprints.